TECHNOLOGY DEPARTMENT

NEW EQUIPMENT DIGEST

A PENTON PUBLICATION

EQUIPMENT • IMPROVEMENTS • PROCESSES • MATERIALS • METHODS • APPLICATIONS • LITERATURE

Vol. 12 April, 1947 No. 4

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APR 9 - 1947
DETROIT

STRAP-ON THERMOSTAT

Designed especially for controlling water, steam and chemical temperatures within differential of 15 degrees, this type strap-on thermostat has dial adjustment calibrated from 40 to 210 F. It is mounted readily on wide range of pipe diameters. Unit is suited for most any type of industrial heat control application and can be used for pilot duty operation. Rating is from 110 to 220 volts alternating current for 1200-watt resistance or 300 watts inductive load. Ample overtravel protection is provided. Housing is tapped to receive standard electrical connections. Three types of switch action are available and include normally closed, normally open and double throw. Made by **United Electric Controls Co.**, 71 A St., Boston 27, Mass.

▲ Mention Item NED-1948 when writing ▲

CAPSULE SIZE PHOTOTUBE

Comparing favorably in sensitivity with larger phototubes, this RCA-1P42 phototube is about the size of .22 calibre long rifle cartridge and has maximum diameter of only 1/4-inch. When installed in multiple circuit control devices, tube makes possible either smaller devices or more circuits in same space. Light entering through tiny window at larger end of tube will activate it. Overall length of tube is just under 1-13/32 inch. Small size adapts this phototube for use in wide range of equipment where compactness is important. Made by **Radio Corp. of America, RCA Victor Div.**, Camden, N. J.

▲ Mention Item NED-1949 when writing ▲

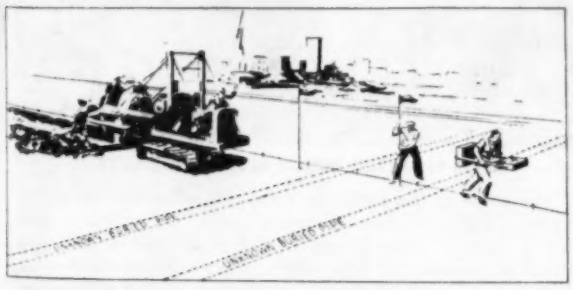
GENERAL PURPOSE MOTOR

Small general purpose universal electric motor is rated at 1/10-horsepower at 5000 revolutions per minute. Motor is mounted on pedestal and is supplied with three-step pulley, foot operated rheostat and reversing switch. Spindle has ⅜-inch shaft extending in both directions and operates in double shielded ball bearings that require no lubrication. List price is $33. Made by **L & R Mfg. Co.**, 577 Elm St., Arlington, N. J.

▲ Mention Item NED-1950 when writing ▲

PIPE LINE LOCATOR

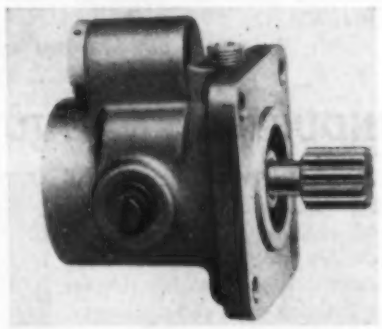
Capable of locating uncharted pipe lines, gas mains and buried metal objects of all types, this M-Scope pipe finder consists of specially designed radio transmitter and receiver.



Transmitter sends out continuous signal and when there is no metal between transmitter and receiver, a definite volume of sound is heard in receiver and meter mounted on receiver gives definite reading. If metal object lies between the two units, sound in earphones is louder and meter reading higher. Pipe or other metal object thus is located. Made by **Fisher Research Laboratory, Inc.**, 1961-63-65 University Ave., Palo Alto, Calif.

▲ Mention Item NED-1951 when writing ▲

SMALL ROTARY PUMP



Weighing 14 ounces and small in size, model RD-7750 pump is of rotary vane type. This self-priming positive displacement pump is designed for handling glycerine, glycols and similar noncorrosive fluids of like viscosity as well as fuels and lubricating oils up to No. 60 SAE. Construction can be varied to permit handling of water, alcohol and other light liquids. Pump is adaptable for use in fuel systems of all types of engines and for handling clean liquids in chemical, food and plastics manufacturing and processing plants.

Maximum pressure is approximately 60 pounds per square inch for No. 10 and 80 pounds per square inch for No. 40 SAE oils. Maximum output is approximately 70 gallons per hour for No. 10 and 60 gallons per hour for No. 40 SAE oils. Pump is available with built-in bypass and relief valves and with various types of drive couplings and mounting flanges to permit engine or electric motor drive. Made by **Romec Pump Co.**, 110 Abbe Rd., Elyria, O.

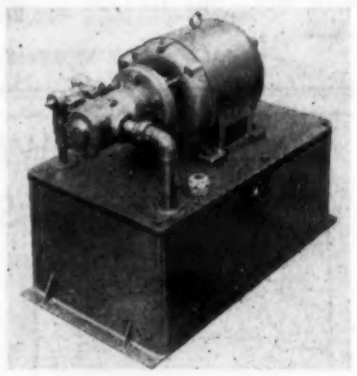
▲ Mention Item NED-1952 when writing ▲

HIGH VOLTAGE DRY BATTERY

Eveready Mini-Max 300-volt dry batteries are adaptable to operation of photomultiplier tubes for measurement of small quantities of light, for powering small lightweight insulation testers, for excitation of voltage supply in portable television devices and as bias supply in high gain direct current amplifiers. Single battery measures 2-11/16 long, 2-11/32 inches wide and, including flush mounted pin jack terminals, has height of 3-15/16 inches. Set of six batteries giving 1800 volts weighs only 6 pounds and will provide sufficient energy for at least 2,000 flashes in multiple flash tubes. Made by **National Carbon Co.**, 30 E. 42nd St., New York 17, N. Y.

▲ Mention Item NED-1953 when writing ▲

HYDRAULIC POWER UNIT



Self-contained hydraulic power units are available in standard sizes with 20, 30 and 60-gallon tank capacities and are equipped with constant delivery vane type pumps. Units combine oil reservoir, pump, suction filter, combination filler cap and air cleaner, oil level gage and other accessories for use as complete power source for hydraulic systems.

Three types of pumps are available in wide range of capacities; single and two-pressure pumps for 1000-pound per square inch operation and two-stage pump for 2000-pound per square inch operation. All intermediary piping between components is provided. Made by **Vickers Inc.**, 1456 Oakman Blvd., Detroit 32, Mich.

▲ Mention Item NED-1954 when writing ▲

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Read Carefully
CHECK AND PASS ON

✓	NAME AND TITLE	SEE ITEM NO.

HEAT RESISTANT PAINT

Recommended for use on smoke stacks, annealing boxes, exhaust manifolds, etc., Markal heatproof paint will prevent metals from corroding and scaling at temperatures as high as 1850 F. Hot metal can be subjected to sudden temperature changes such as quenching in cold water without causing paint to crack or peel. Applied while parts are cold, paint dries in approximately 20 minutes and can be exposed to high temperatures immediately after drying. Made by **Markal Co.**, 607 N. Western Ave., Chicago 12, Ill.

▲ Mention Item NED-1955 when writing ▲

Do YOU know?

■ EXTREMELY resistant to rust or corrosion, Elgiloy spring material is expected to find use in razor blades, stainless cutlery, gun springs, jet propulsion and gas turbine parts, chemical equipment, valve springs and electronic components. This high tensile alloy is nonmagnetic and was developed for making Durapower watch mainsprings which are unaffected by humidity or finger prints. Watch spring life of alloy is claimed to be four times that of spring steel. Developed by Elgin National Watch Co., Dept. K-6 Elgin, Ill.

▲ Mention Item NED-1956 when writing ▲

Ways to slash nonproductive paperwork and to obtain production savings in office procedures are explained clearly in 20-page booklet entitled "The A B C of Work Simplification in Office Operations". Benefits to personnel, methods of setting up procedures, office layout, equipment which eases work, business form design and other phases of work simplification are outlined. Available from Standard Register Co., 626 Albany St., Dayton 1, O.

▲ Mention Item NED-1957 when writing ▲

Needed voltages are supplied for pilot lamp operation in alternating and direct current radio receivers and similar voltage reduction functions are served by ten Universal resistor tubes. These wire wound units plug into standard octal sockets and will not cause hum. Maximum safe power dissipation is 20 watts. Made by General Electric Co., Electronics Dept., Schenectady 5, N. Y.

▲ Mention Item NED-1958 when writing ▲

Leaders of the plastics and affiliated industries will gather for the second Society of the Plastics Industry national exposition which will be held at the Coliseum, Chicago on May 6 to 10, 1947. Technical sessions and trade association meetings will be held concurrently at the Stevens Hotel. Information available from the Society of the Plastics Industry, Inc., 295 Madison Ave., New York, N. Y.

▲ Mention Item NED-1959 when writing ▲

with PLASTIC ROCK!

Trowel a smooth, tough, malleable surfacing right over your old concrete or wood floor.

Plastic Rock comes complete, packed in barrels, nothing more to buy, no application "formula" to confuse you. Simply mix and trowel right over old floor; sticks to concrete, wood, steel; average depth ½"; patches concrete to perfect feather edge. Old floor Saturday, new floor Monday; hundreds of tons rolling on steel wheels only improve it; 7-year-old floors show no wear. Plastic Rock is spark-proof, skid-safe even when wet, dustless, silent; feels like cork under foot; cannot splinter, crack, crumble, curl or loosen. Used by largest industries and railroads in America. Your contractor or your own crew can apply.

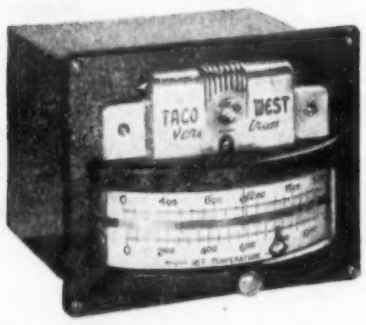
Ask for Report 220-D-4

UNITED LABORATORIES, INC.
16804 EUCLID AVENUE • CLEVELAND 12, OHIO
In Canada—STORRAR MFG. COMPANY, Weston, Ontario
Representatives everywhere, including foreign countries

▲ Mention Item NED-1960 when writing ▲

THE VERITRON ELECTRONIC CONTROLLER
A New Two Position Pyrometric Controller

THE BEST IN ELECTRONICS



- New self stable electronic control.
- No contact with measuring system.
- No tuning—No adjustment.
- Control point unaffected by line voltage change.
- Narrower control differential.
- New welded instrument system—5 mirrored scale.
- Designed by Theodore A. Cohen, prominent instrument designer.

The VERITRON is a truly complete, compact instrument. Its operation is dependably free of maintenance requirements.
Ideal for Furnaces and Plastic Molding Machine Control
Write for complete description and accessory list, Bulletin PC-1.

TACO WEST Corporation
2610 South Park Avenue • Chicago 16, Illinois

▲ Mention Item NED-1961 when writing ▲

Important! INDUSTRIAL USERS OF Magnetic SEPARATORS

Don't GAMBLE with TRAMP METAL!

HOMER Permanent Magnets

NON-ELECTRIC
NO WIRES
NO MAINTENANCE

are the answer to safe...certain separation of tramp iron and steel from plastics, paper, insulation, scrap materials, chemicals, wood-flour, ceramic, feed and flour and other pulverized materials.

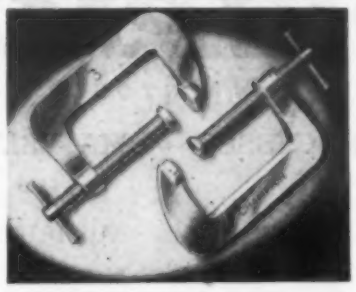
PROTECT YOUR PRODUCTS . . .
PROTECT YOUR EQUIPMENT . . .
Write For Bulletins Today

Remember...with a Homer...YOU ARE CERTAIN!

The HOMER Manufacturing Co., Inc.
508 N MAIN ST
LIMA · · · OHIO
"PERMANENT AND ELECTRO MAGNETS"

▲ Mention Item NED-1962 when writing ▲

ALUMINUM C-CLAMPS



Featuring lightness in weight, Champion light duty C-clamps provide maximum strength at points of greatest stress. Steel screws are precision cut and bearings are precision machined. All sizes have sliding cross handles and heavy button tips for applying holding pressure. Clamps are available with from 2½ to 6-inch maximum openings. Made by Western Tool & Mfg. Co., Springfield, O.

▲ Mention Item NED-1963 when writing ▲

INDUSTRIAL VACUUM CLEANER

Available in large and small sizes, this model No. 90 industrial vacuum cleaner has motor assembly which is detachable and convertible to portable blower for cleaning parts and machinery. Tank has rubber casters for portability and detachable motor can be supported by shoulder strap for added convenience. With suitable attachments, motor assembly can be used as portable vacuum cleaner. Motor is located in tank to keep center of gravity low. Inlet design permits maximum amount of material to be dropped into tank without passage into bag or fan chamber.

Large size vacuum cleaner employs 1-horsepower General Electric universal motor, air cooled for continuous service. Unit has 49-inch water lift and 12-gallon tank which is 29 inches high. Smaller cleaner uses 3/5-horsepower motor, has 36-inch water lift and 10-gallon tank which stands 27 inches high. Models weigh 42 and 40 pounds respectively. Made by Breuer Electric Mfg. Co., 5106 N. Ravenswood Ave., Chicago 40, Ill.

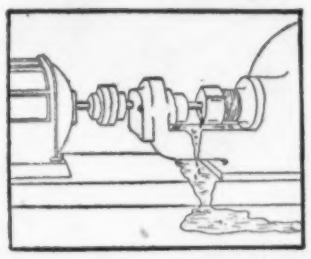
▲ Mention Item NED-1964 when writing ▲

ALUMINUM STEP LADDER

Weighing less than 2 pounds per foot of height, this Amplex aluminum step ladder is built to withstand 500 pounds working load on each step and entire ladder has been tested to 1200 pounds. Top step and work shelf are equipped with rubber mats and ladder feet have rubber guards which prevent them from slipping. Each step has tread of extruded aluminum to assure safety. Ladders are available in 2, 3, 4, 5 and 6-foot heights. Made by Jarvis Mfg. Co., Glendale 1, Calif.

▲ Mention Item NED-1965 when writing ▲

TROUBLED WITH LEAKY STUFFING BOXES on Your Pumps?



Try SYNTRON MECHANICAL SHAFT SEALS the next time!

Simple and easy to install. Self-lubricating.
Standard seals for handling clean water, refrigerant gases, oil, etc.
Special seals for corrosive and abrasive liquids.
Write for illustrated catalog folder
SYNTRON CO.
405 Lexington, Homer City, Pa.

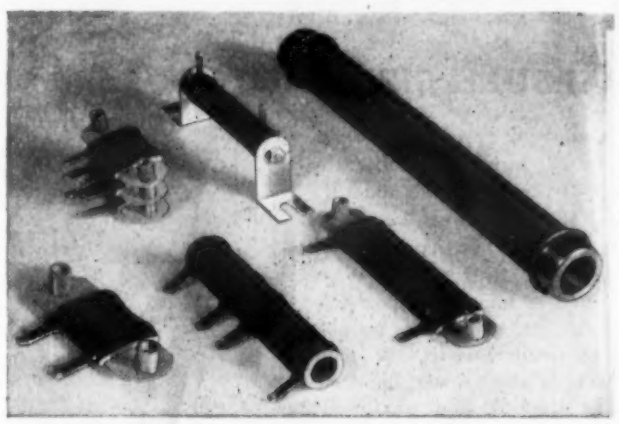
▲ Mention Item NED-1966 when writing ▲

MEASURE HIGH VACUUM THE NEW ECONOMICAL WAY with a Skanascope

- Designed for production installations.
- Color screen continuously indicates operative status of vacuum systems.
- Monitors total pressures and compensates for temperature.
- Needs no calibration or zero setting.
- Connects directly to the vacuum system.
- Skilled operators are not required.
- Economical in price and operation. Compact, durable—safe for all vacuum installations.
- Recommended for manufacturers of neon signs, refrigeration equipment, temperature controls, and vacuum pump systems.

For full information WRITE
Vacuum Equipment Division
DISTILLATION PRODUCTS, INC.
Rochester 13, N. Y.

▲ Mention Item NED-1967 when writing ▲



RESISTORS - Standard or Special by I-T-E

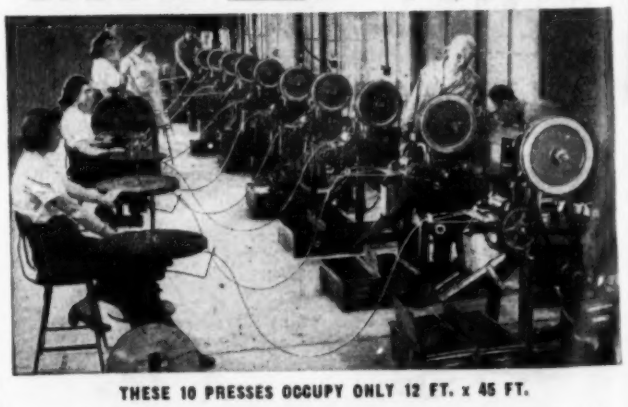
IN order to meet your particular requirements, I-T-E Resistors are manufactured in a wide variety of standard and special types, sizes and ratings with mountings and terminals as specified.

Resistors are wire-wound, have silver soldered connections and are locked and insulated with blue-black Vitreous enamel for fast heat-dissipation. Ratings range from 5 to 215 watts in fixed and adjustable types and from 30 to 75 watts in oval types. I-T-E Resistors are available from stock.

RESISTOR DIVISION
I-T-E Circuit Breaker Company
1899 Hamilton Street, Philadelphia 30, Pa.

▲ Mention Item NED-1968 when writing ▲

PRODUCTION PLUS!
OVER a million stampings per day with this battery of DIEBEL Hi-Speed 550 RPM AUTOMATIC PRESSES



THESE 10 PRESSES OCCUPY ONLY 12 FT. x 45 FT.

The speed of this automatic press—it's adjustable up to 550 strokes per minute!—has resulted in soaring production records over a period of years in hundreds of plants. Diebel Hi-Speed Automatic Presses, like those above, have performed wonders on steel, brass, phosphor-bronze, fiber, plastics, rubber and paper.

May we send you our illustrated circular? It's yours for the asking—an introduction to the solution of your light blanking and forming problems.

DI MACHINE CORP.
DIVISION OF DIEBEL DIE & MFG. CO.
2701 West Irving Park Road Chicago 18, Illinois

▲ Mention Item NED-1969 when writing ▲

Gray I-Beam Trolleys

SAFE—EFFICIENT

Close Headroom

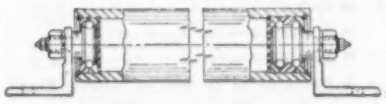
¼ to 5 ton Capacity

Adjustable For Any Type Beam

IMMEDIATE DELIVERY

TROLLEY WHEELS→

Plain or Flange Type
Single or Double Ball Race
Thoroughly Sealed



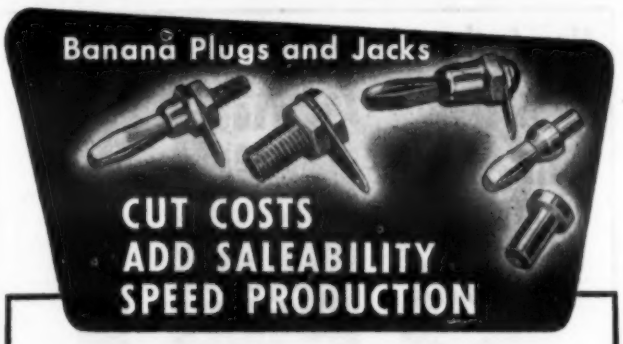
←GRAVITY ROLLERS
From 2¼" dia. up
Specify Length

WRITE FOR ILLUSTRATED LITERATURE

GRAY HUB COMPANY
INCORPORATED 1922

17565 GABLE AVENUE DETROIT 12, MICH.

▲ Mention Item NED-1970 when writing ▲



USED FOR
Plug-In Relays ★ Condensers ★ Crystals ★ Inductors ★ Meter Panels ★ Sub-Assemblies ★ Units ★ Cable Connectors

BECAUSE
★ Easy to Replace and Interchange Parts -- Minimum Operating Delay ★ Sections of Equipment May be Removed for Repair Without Disturbing Wiring ★ Permits Mass-Production Manufacture -- Easily Handled Sub-Assemblies Wired then Plugged In.

BANANA SPRINGS PROVIDE
★ Good Tension-Positive Contact ★ Low Resistance ★ Long Life

YOU'LL LIKE JOHNSON BECAUSE
★ Wide Choice of Standard Types ★ Designs Adopted as Industry Standards ★ Equipped to Furnish Complete Plug & Jack Boards -- We'll be Glad to Suggest Something for Your Equipment.

New Catalog 968 RD Free on Request

E. F. JOHNSON COMPANY
WASECA, MINN.

JOHNSON
a famous name in Radio

▲ Mention Item NED-1971 when writing ▲

DENISON
HydrOILicPUMPS
Combining
HIGH PRESSURE with
HIGH VOLUME DELIVERY

QUIET at all operating pressures!

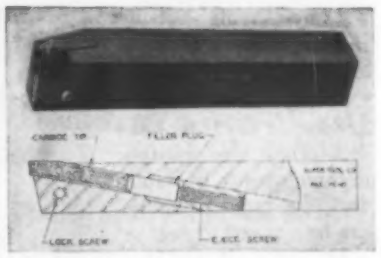
● Actual tests show that HydrOILic Pumps maintain volumetric efficiencies of *95% or better* at continuous operating pressures of 3500 psi—a new high in combined *power and speed* for hydraulic pumps. A new pressure-equalization principle results in amazingly *quiet* operation at all pressures. HydrOILic Pumps in the 3500 series deliver volumes of 6, 17, and 32 gpm respectively, developing 3500 psi for continuous service at 1200 rpm, or up to 5000 psi for intermittent duty. Write for details.

The DENISON Engineering Co., 1151 Dublin Rd., Columbus 16, Ohio

DENISON EQUIPMENT for APPLIED *HydrOILics*

▲ Mention Item NED-1972 when writing ▲

EJECTOR TYPE CARBIDE TOOL



Secure holding of solid replaceable carbide bit is provided by this ejector type carbide tool holder without applying stresses. In resharpening, carbide bit is extended by turning recessed ejector screw. With carbide thus extended, it is unnecessary to grind or bring diamond wheel in contact with steel holder. Savings are claimed to be as high as 600 per cent in tool breakage. Made by Super Tool Co., 21640 Hoover Rd., Detroit 13, Mich.

▲ Mention Item NED-1973 when writing ▲

CHASER DIE HEAD

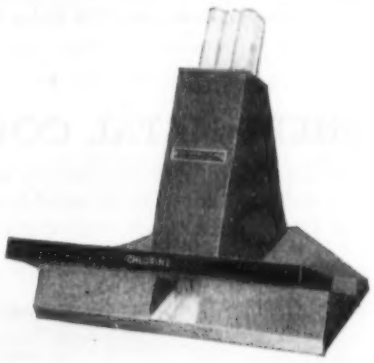
Feature of this tangent chaser die head is quick simple removal and replacement of chasers and chaser holding blocks, usually without removing the tool from machine. Replacement blocks and chasers previously are set to exact location in micrometer setting fixture. Because of this, one die head with extra chasers and blocks takes the place of two or more complete setups and reduces machine down-time.

Die heads are furnished in revolving and stationary types and chasers and holding blocks are interchangeable. Illustrated type TRB is rotating yoke operated tool for use on automatic screw machines, drill presses or any machine where tool revolves. Chasers of given pitch can be used to cut any size within range of head. Made by Murchey Machine & Tool Co., 951 Porter St., Detroit 26, Mich.

▲ Mention Item NED-1974 when writing ▲

WATER ANALYZER

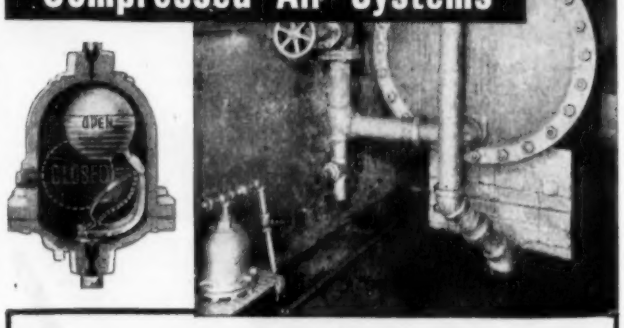
Primarily designed for determining color, chlorine, total iron, silica and similar content of water, this water analyzer employs color standard plastic slides for comparative purposes. Outfit consists of base, slide and three Pyrex sample tubes. Wooden base serves as holder for tubes and is set on 45-degree angle. Etched glass at bottom of three tube compartments supplies diffused light directed downward on mirror. Each slide contains nine standards alternating with ampoules of water.



Determinations are made by placing sample in middle tube, moving slide and observing colors in mirror until color match is obtained. Chlorine, pH, silica or iron content is read directly from values marked on slide. Made by W. A. Taylor & Co., Dept. N, 7300 York Rd., Baltimore 4, Md.

▲ Mention Item NED-1975 when writing ▲

PROTECT
Compressed Air Systems



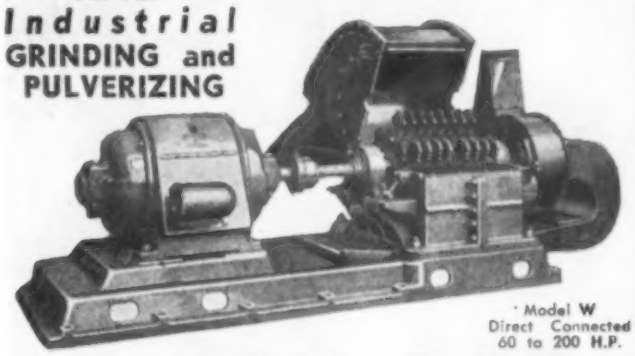
QUICK FACTS

1. **AUTOMATIC DRAINAGE.** Armstrong Air Traps work automatically. They stay on the job 24 hours a day to protect equipment against water damage.
2. **AIR SAVINGS.** Compressed air costs money. Armstrong Air Traps blow down condensate without wasting air. No worry about hand operator failing to close valve.
3. **TROUBLE-FREE PERFORMANCE.** Armstrong offers Air Traps for every purpose. The line is complete with types to handle toughest jobs.
4. **LOW COST, HIGH QUALITY.** Stainless steel trim. On a capacity basis they can't be beat.
5. **RECOMMENDATIONS.** Complete information and recommendations on request. ARMSTRONG MACHINE WORKS, 819 Maple St., Three Rivers, Mich.

ARMSTRONG AIR TRAPS

▲ Mention Item NED-1976 when writing ▲

For ALL
Industrial
GRINDING and PULVERIZING



Model W
Direct Connected
60 to 200 H.P.

JAY BEE
Hammer Mills

Jay Bees Grind ANYTHING grindable—from feathers to firebrick!

Increase Capacity—Reduce Operating Costs

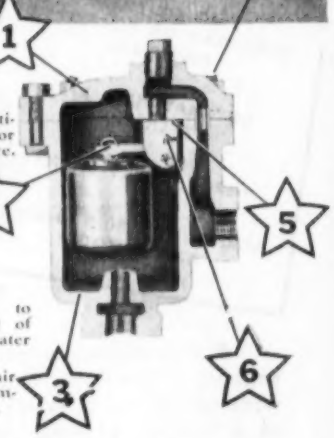
Whatever you grind . . JAY BEE Mills solve your problems with notable efficiency. Strength, durability and precision of operation are combined to give you a maximum of continuous operation, capacity and quality grinding at a minimum cost.

JAY BEE Mills, result of over 25 years of manufacturing experience, are made in many sizes and models . . 12 to 200 H.P., for Belt, V-belt or Direct Connected drives . . for every grinding and pulverizing purpose. It will pay you to write for details.

J. B. SEDBERRY, INC.
Utica, New York Franklin, Tennessee

▲ Mention Item NED-1977 when writing ▲

INTRODUCING
A NEW HEAVIER DUTY
TRANE BUCKET TRAP



1 **EXTRA HEAVY COVER** — Designed for service at pressures well above recommended maximum.
2 **STAINLESS STEEL PARTS** — Critical parts are stainless steel for long wear under severe service.
3 **HEAVY WEIGHT BODY**— Body casting is extra heavy to provide for rugged use.
4 **HEAVY COVER BOLTS**— Closely spaced, prevent gasket blowouts and positively secure heavy cover.
5 **RUGGED MECHANISM** — Made to withstand the punishment of high pressure steam, resist water hammer and wire drawing.
6 **FRICTION-FREE OPERATION**—Hair trigger action snaps trap completely shut or full open.

The Trane Bucket Trap is a simple, compact device for draining condensate and air from low points in high pressure lines. Ideal for unit heaters, blast heaters, pipe coils, laundry equipment and hot water heaters. Available in 5 sizes. IMMEDIATE DELIVERY. *Write for Catalog J-260.*

THE TRANE COMPANY
LA CROSSE, WISCONSIN
Also Trane Company of Canada, Ltd., Toronto, Ontario

▲ Mention Item NED-1978 when writing ▲

UNILARM
(UNIT ALARM SYSTEM)

PROVIDES COMPLETE SUPERVISION OF ALL TYPES OF ELECTRICAL AND MECHANICAL PROCESS CONTROL

Flashing Alarm Light gives instant visual signal. Audible alarm sounds when supervised condition becomes abnormal. Distinguishes new abnormal condition from those previously acknowledged. Alarm must be acknowledged to silence.

Alarm must be acknowledged to silence howler. Causes flashing light to burn steady-state, proof that abnormal condition is receiving attention.

Automatically resets when abnormal condition returns to normal.

Unilarm test switch permits instant check of entire alarm circuit.

Plug in relay panel reduces maintenance to minimum.

12 page catalog U-46 gives pertinent facts, wiring, diagrams, applications.

Sales Offices in Principal Cities

RUSSELL & STOLL COMPANY, INC.
Precision-Built Electrical Equipment
125 BARCLAY STREET, NEW YORK 7, N. Y.

▲ Mention Item NED-1979 when writing ▲

FOR FASTER SMOOTHER STRONGER WELDS

On Circular or Cylindrical Work

. . . Weld It Automatically on Ransome Positioners or Turning Rolls

Whatever the weight and diameter of your circular or cylindrical work up to 75 tons and 14 ft., there's a Ransome Positioner or Turning Roll Unit for rotating it at the right speed that will give you all the time-material-labor-saving benefits of automatic welding. Stronger, smoother welds . . . as much as 50% faster production. Investigate Ransome Positioners and Turning Rolls today. Bulletin 210 gives all the facts. Y7-4

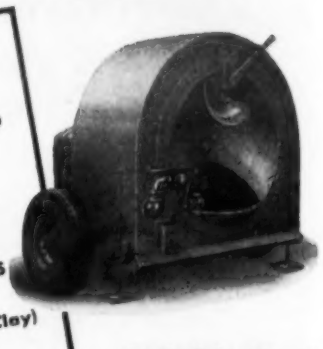
Industrial Division
Ransome MACHINERY COMPANY
Dunellen, New Jersey
Subsidiary of
WORTHINGTON PUMP AND MACHINERY CORPORATION

WORK POSITIONING PAYS for WELDING for ASSEMBLY

▲ Mention Item NED-1980 when writing ▲

A New Mixing Principle for FAST, THOROUGH

mixing of:
TWO OR MORE GRANULAR OR POWDERED MATERIALS
•
DRY MATERIALS AND A LIQUID
•
HEAVY, TACKY PASTES
•
SEMI-SOLIDS (Such as Clay) AND A LIQUID



3 Cubic Feet of Mixed Material in 30 Seconds!

● Developed originally for *cold mixing* asphalt . . . the Foote Kinetic Mixer is finding wide use in industry for fast, uniform mixing of a variety of wet, dry, heavy, and stiff materials. Charges in 5 seconds . . . Injects liquid (up to 8 gallons) in 6 seconds . . . Mixes in 14 seconds . . . Discharges in 5 seconds! Write for descriptive Bulletin K-200.

THE FOOTE CO., INC., 1943 State St., Nunda, N. Y.

The FOOTE *Kinetic* mixer

▲ Mention Item NED-1981 when writing ▲

ELIMINATE UNNECESSARY BOILER OPERATION DURING WARM MONTHS

Economical CHROMALOX Electric Circulation Heaters eliminate costly steam-boiler operation when the boiler is not needed for space heating. Heater connects directly to hot water tank . . . or heats the water "on the spot" where it is used. Thermostat control assures a plentiful supply.

If hot water or steam is a by-product of winter heating, check the advantages of CHROMALOX Heaters for summer use.

FOR HELPFUL DATA ON ELECTRIC HEAT
Send for the booklet "100 Ways to Apply Electric Heat" and Chromalox Catalog 42.

EDWIN L. WIEGAND CO., 7509 THOMAS BLVD., PITTSBURGH 8, PA.

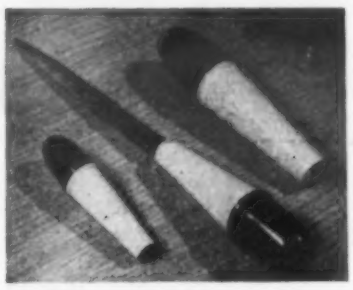
See other advertisement on page 48

CHROMALOX 18-52

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ Mention Item NED-1986 when writing ▲

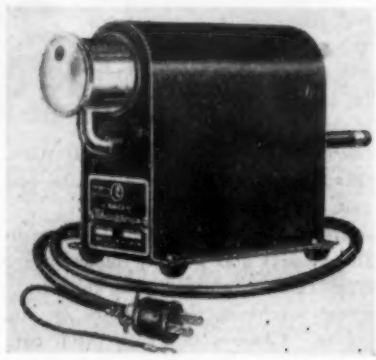
PLASTIC FILE HANDLES



Dimensionally stable and capable of withstanding hard service, Celanese Celcon plastic is used in molding these file handles. They are available in three sizes to fit standard size tangs. Handles can be exposed to heat or cold and will not become brittle. Two colors, blue and yellow, are used to distinguish the tools in toolboxes. Handles can be hot pressed, stamped, embossed or marked in various other ways with dealer's name or trademark to insure proper identification or furnish advertising value. Injection molded plastic handles are made in two sections and joined by cementing process. They will not loosen from file. Made by Ross-Frederick Corp., Box 429, Mineola, N. Y.

▲ Mention Item NED-1983 when writing ▲

VACUUM CONTROL GAGE



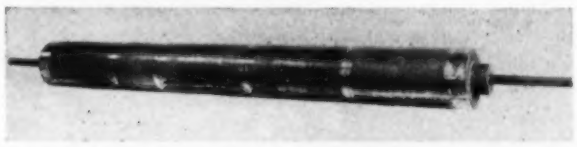
Adaptable for continuous operation, Skanascope vacuum control gage monitors total pressure of permanent and condensable gases in any system and compensates for effect of temperature changes on pressure. Unit connects directly to vacuum system and needs no calibration or zero setting. It is basically automatic in operation and can be plugged into standard electrical receptacle.

Vacuum measurement is indicated by means of color on fluorescent screen. Total number of molecules per unit volume in vacuum system, including all residual gases and vapors regardless of their condensability, are measured. Gage is recommended for use in manufacturing neon signs, refrigeration equipment, temperature controls and vacuum pump systems. Overall weight is 7½ pounds. Distributed by Distillation Products, Inc., 755 Ridge Rd. W., Rochester 13, N.Y.

▲ Mention Item NED-1984 when writing ▲

SHEET METAL COVERED ROLL

Adaptable for wide range of dry service uses, No. 341 Shaf-Tite rolls have rolled sheet metal body, smooth soldered joints and internal disk heads with cast iron end hubs to provide



strong shaft anchorage. Either idler or driven rolls are available in diameters of 5, 6, 7, 8, 9 and 10 inches and in almost any length. Made by Rodney Hunt Machine Co., Roll Div., 73 Maple St., Orange, Mass.

▲ Mention Item NED-1985 when writing ▲

This Logan Apron Conveyor moves baskets of parts from a sub-assembly department to main assembly line for assembling onto stove chassis in nationally known plant.

Here again — experienced plant managers have turned to conveyors to point up their production tempo. Costly man handling, with its push-lug-and-carry methods gives way to the smooth, profitable flow of Logan equipment. That kind of work belongs to conveyors.

Logan Conveyors

LOGAN CO., INC., 215 CAREL ST., LOUISVILLE 6, KY.

▲ Mention Item NED-1986 when writing ▲

SAFE-LINE WIRE ROPE CLAMP

FOR ROPE SIZES 1/16" TO 3/4"

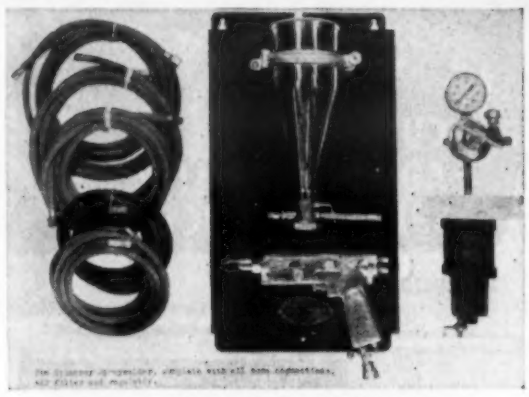
- *Eliminates Splicing and Serving*
- *Easy to Use, Easy to Re-adjust*
- *Outpulls Strongest Rope—Never Slips*
- *Economical—Use Again and Again*
- *Safe—Prevents Injury, Mental Hazards*
- *Replacement Guarantee Against Breakage*

WRITE FOR DESCRIPTIVE PRICE LIST FOLDER

NATIONAL PRODUCTION COMPANY
4557 ST. JEAN AVENUE • DETROIT 13, MICHIGAN

▲ Mention Item NED-1987 when writing ▲

Here's the COLMONOY SPRAYWELDER



Here's What It Will Do—

1. Spray and bond Colmonoy No. 6 to steel, stainless steel, copper, etc. (Colmonoy No. 6 outwears hardened steel from 3 to 25 times, has greater corrosion resistance than stainless steel, and in addition is non-sparking and non-magnetic).
2. Spray and bond tin-lead solders.
3. Use it as a powder metallizing unit to apply coatings of brass, copper, zinc, lead, nickel, stainless steel, silver solder, aluminum and other alloys.

Write
For name of nearest office or sales representative

WALL COLMONOY CORPORATION
7TH FLOOR FISHER BLDG., DETROIT 2, MICH.

▲ Mention Item NED-1988 when writing ▲

HERE'S SOMETHING NEW IN TOOL KITS TO SAVE YOU *Minutes* AND *Money!*

duMONT'S *Minute Man* KEYWAY BROACH KIT

Now, you can cut any standard width, any depth keyway *in one minute!* You simply select the right bushing for the bore, insert the broach in the bushing slot, place it under the arbor press and press it through, using a shim and second pass to get the exact depth desired. It's done in a tiny fraction of the time it would take to set up a machine for the job.

New Catalog "D" contains complete information and prices on all sizes of Broaches and Kits and a lot of valuable reference information.

The du MONT CORPORATION
GLOUCESTER, MASSACHUSETTS

▲ Mention Item NED-1989 when writing ▲

A WAY TO SAVE BIG REPAIR BILLS

Stop piping leaks, seal cracked castings, tighten loose bolts, screws, rivets, parts and fixtures—promptly—on the spot—with Smooth-On No. 1 Iron Cement. You'll usually forestall expense, trouble, replacements. You use it like putty. No heat required. It hardens like metal and holds, because Smooth-On expands slightly as it sets.

Smooth-On has been popular with mechanics and repairmen for over 50 years. Keep it handy for emergencies. Buy it in 7-oz. 1-lb., 5-lb. or larger size from your supply house, or write us.

REPAIR HANDBOOK FREE

Get your copy of this valuable 40-page guide to metal repairs. Clear, practical directions. 170 diagrams. Just mail a postcard for it today.

SMOOTH-ON MFG. CO., Dept. 10D
570 Communipaw Avenue, Jersey City 4, N. J.

Do it with SMOOTH-ON IRON CEMENT

▲ Mention Item NED-1990 when writing ▲

KEEPS MACHINISTS FROM WASTING TIME

You can eliminate many hours of highly-paid Machinists' time from your payroll if you will let these men use the Jackson TIME-SAVING Vise. It cuts out the time they are forced to waste hunting for Bolts, Clamps, Angle Plates, Parallel Strips, etc. when "rigging up" work on the Drill Press, Miller, etc. Furthermore, you can eliminate the simultaneous loss of output and overhead expense incidental to having your productive machine idle during the "rigging up" process. The four-side turret jaw and supplementary jaws enable the vise to hold instantly the thousand and one shapes that arise in a Machine Shop. SEND FOR BULLETIN No. 23-D.

BROWN ENGINEERING CO.
129 NORTH 3RD ST. READING, PENNA.

▲ Mention Item NED-1991 when writing ▲

Do You Pay ONE MAN OR SEVERAL TO HANDLE DRUMS, BARRELS?

The SABIN ONE MAN BARRELTRUCK saves many times more than its cost!

What was a hard job for two or more men is now an easy job for ONE. With a Sabin Type "L-3" Truck your trucker can easily load and transfer weights up to 800 pounds. He simply places adjustable hook over top chime, then pulls handle back and load is lifted automatically. THIRD-WHEEL FEATURE insures better balance, added safety.

WRITE FOR BULLETIN NO. 45
THE SABIN MACHINE CO.
6536 Carnegie Ave., Cleveland 3, Ohio

ALSO TOTE PAN, BOX, CARBOY, KEG TRUCKS!

▲ Mention Item NED-1992 when writing ▲

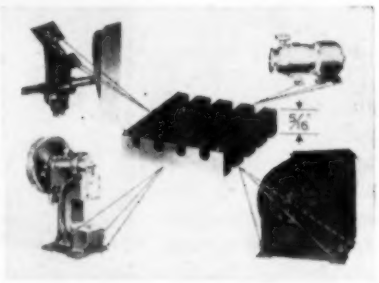
TEMPERATURE CONTROL UNIT

Suitable for installation on industrial furnaces and plastic molding machines, this Veritron electronically operated pyrometric control unit is compact and has simplified operation. When control pointer is set at desired temperature, control is established immediately within narrow temperature range. Pointer movement of 0.002-inch on scale produces relay operation. Relay is built-in and has noninductive load capacity of 3 kilowatts. Electronic circuit requires no tuning or other adjustments.

Measuring system is compensated for cold junction deviation, moving coil temperature coefficient and magnetic errors. System is stable and free from chatter. Complete instrument measures 7-1/8 x 5-3/4 x 5-1/4 inches and can be either flush or surface mounted. Made by Taco West Corp., 2620 S. Park Ave., Chicago, Ill.

▲ Mention Item NED-1993 when writing ▲

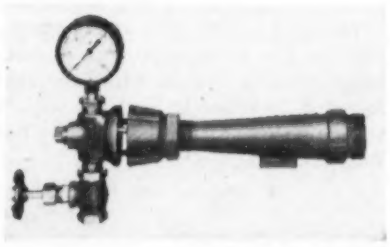
VIBRATION ABSORBING PADS



Adaptable for use as mounting pads under all types of machinery ranging from typewriters to forging hammers, MB Isomode oil resistant Neoprene pads also absorb vibration and serve to hold noise to minimum. Pads are claimed to reduce cost and time required for installing or removing machinery by eliminating need for hold-down bolts, skids, concrete mats or grouting. They will adjust and compensate for uneven floors. Standard pads measure 18 inches square and 5/16-inch thick and can be cut to any desired size or shape. Made by MB Mfg. Co., 333 East St., New Haven 11, Conn.

▲ Mention Item NED-1994 when writing ▲

GAS MIXING DEVICE



Suitable for use with all gases including liquefied petroleum types, Hijector gas mixing unit will operate on pressures up to 35 pounds, entrain necessary air for proper combustion and deliver mixture at maximum possible pressure. It is available in pipe sizes from ¾ to 4 inches and integral cast mounting boss with drilled and tapped holes simplifies mounting of auxiliary units. Air entrainment noise is held to minimum. Orifice and air entrainment areas are readily accessible for inspection or cleaning. Made by Bryant Heater Co., Industrial Div., 1020 London Rd., Cleveland 10, O.

▲ Mention Item NED-1995 when writing ▲

47 SIZES AND STYLES OF CLECO CHIPPERS

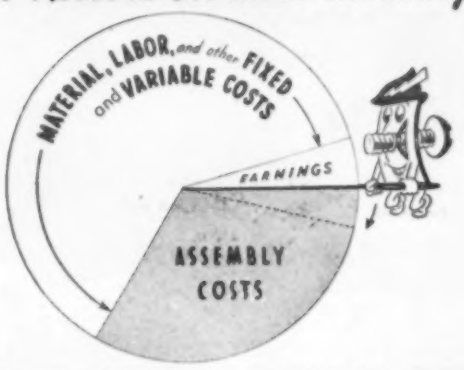
No. 3WA Chipper with ratchet lock handle.

This varied line offers the *exact* tool for *every* chipping, calking, beading, and scaling need. Either the open or closed style of handle may be had. There is also a choice of two valve mechanisms, both efficient and practically breakage-proof. Cleco Chippers use a throttle valve that graduates the air supply, thus giving a smooth start to the piston, minimizing recoil and making the hammer easy to hold and control on the work. Plungers and chisel bushings are made of hardened and tempered tool steel, ground to close limits. The cylinders are made of selected alloy steels, carefully heat treated to insure super strength. *Send for Bulletin 75B.*

THE CLEVELAND PNEUMATIC TOOL CO.
3781 East 77th Street ★ CLEVELAND 5, OHIO
DISTRIBUTORS IN ALL PRINCIPAL CITIES

▲ Mention Item NED-1996 when writing ▲

LET Speed Nuts PUSH DOWN Your Assembly Costs... To Restore Normal Earnings



In building any product, the most *flexible* cost factor is *assembly*. While reductions in other costs are difficult at best, ASSEMBLY COST can be pushed down drastically.

And you can do it NOW, to restore normal earnings and meet the coming competition.

The SPEED NUT SYSTEM of Spring Tension Fastenings is doing cost-saving jobs that may surprise you when you see the details.

If you want to truly modernize your entire assembly methods, to assure fair profits, investigate what the SPEED NUT brand of fasteners can actually do for you NOW. First step is to send assembly details for a complete no-charge fastening analysis.

TINNERMAN PRODUCTS, INC. 2044 FULTON ROAD, CLEVELAND, OHIO

Speed Nuts
FASTEST THING IN FASTENINGS

▲ Mention Item NED-1997 when writing ▲

Quicker, More Accurate TEMPERATURE READINGS!

With Foxboro Dial Thermometers on the "hot spots" of your process, temperature readings are made so easy and accessible that they practically can't be overlooked!

The instrument can be located anywhere up to 200 ft. from the bulb. Airplane-type dials with clear-cut figures give accurate readings 20 ft. away. Sturdy, precision design. All-metal construction for lifetime service. Cost no more.

Write for detailed information. The Foxboro Company, 134 Neponset Ave., Foxboro, Mass., U. S. A. Branches in principal cities.

FOXBORO Reg. U. S. Pat. Off. TEMPERATURE INDICATORS

▲ Mention Item NED-1998 when writing ▲

Poro-Stone Filtration FOR COMPRESSED AIR

EFFICIENTLY REMOVES OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 105.

R. P. ADAMS CO., INC.
227 E. Park Drive • Buffalo 17, N. Y.

ADAMS Poro-Stone AIR FILTER

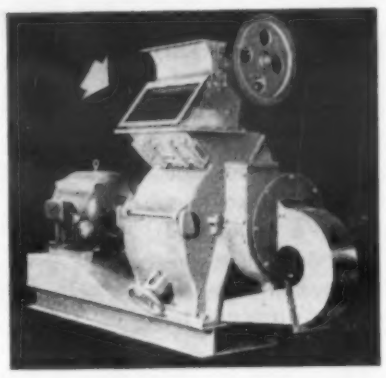
▲ Mention Item NED-1999 when writing ▲

MOLYBDIC OXIDE—BRIQUETTED OR CANNED • FERROMOLYBDENUM • "CALCIUM MOLYBDATE"
CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS.

Climax Molybdenum Company
500 Fifth Avenue · New York City

▲ Mention Item NED-2000 when writing ▲

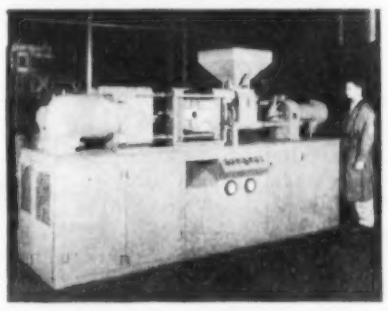
HAMMER MILL



Two improvements have been incorporated in this line of hammer mills. Industrial type fan is integral part of mill. Fan has replaceable scroll liner and accessible inspection-cleanout door. Open construction of fan blades minimizes wear by permitting large percentage of material to by-pass blades. Feeding attachment which facilitates handling of roughage can be used on mill. It is pitched properly for outside chute connections and has 10 x 18-inch opening. Easily adjusted hand lever opens or closes hinged inlet door. When roughage door is closed, grain handling crusher, mounted directly above feeder, is ready for action. Made by **Sprout, Waldron & Co.**, 179 Sherman St., Muncy, Pa.

▲ Mention Item NED-2003 when writing ▲

PLASTICS MOLDING MACHINE



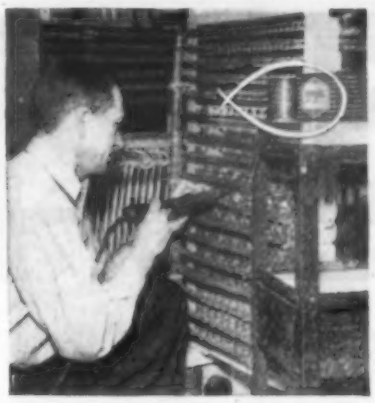
Improved model 125-H-4 all hydraulic 4-ounce plastics injection molding machine is fast acting unit capable of injecting 527 cubic inches of material per minute at 20,000-pound per square inch pressure. Features include self-contained hydraulic power system composed of single gear pump working in conjunction with improved Hydro-Power pressure booster, both being driven by direct connected 15-horsepower motor. Working pressure is 2250 pounds per square inch. Gravity feed system utilizes readily accessible 50-pound capacity windowed sheet steel hopper. Feed mechanism is self-compensating to feed correct amount of material automatically. Die slam is eliminated by automatic shiftover of pressure from booster ram to main ram by adjustment of nut at end of cylinder. Slowdown of mold clamp ram at predetermined position is thus assured. Movable die head is solid steel plate which can be moved forward by two hydraulic cylinders for easy access to heating chamber. This arrangement permits operator to inject material into atmosphere without material entering mold. Stationary head is U-shaped for easy removal of heating chamber. Injection chamber is provided with 3-kilowatt multiple zone heating system. Made by **Hydraulic Press Mfg. Co.**, 100 Marion Rd., Mt. Gilead, O.

▲ Mention Item NED-2004 when writing ▲

DO YOU KNOW?

Thermally sensitive Thermistor resistors are available in disk, rod and bead types and have large negative temperature coefficients. These small, inexpensive devices are used in wide range of electrical and electronic instruments and equipment. Made by Western Electric Co., 195 Broadway, New York 7, N. Y.

▲ Mention Item NED-2005 when writing ▲



A Sure Sign of Solder Security

KESTER CORED SOLDERS

• The use of Kester Cored Solders in any soldering operation is a sure sign of permanent trouble-free service and dependability. Kester Cored Solders are made to provide solder bonds that resist the strain of steady duty in everything from the most intricate electrical connections to the heaviest type of industrial soldering.

• Kester experience is at your service to determine the best solder formula and practice for your operation. Get the benefit of this experience without obligation by consulting Kester engineers on any solder problem.

KESTER SOLDER COMPANY
4249 Wrightwood Ave., Chicago 39, Ill.
Eastern Plant: Newark, N. J. Canadian Plant: Brantford, Ont.

KESTER *Cored Solders*
STANDARD FOR INDUSTRY

▲ Mention Item NED-2007 when writing ▲

IF YOU have the problem of economically and efficiently cleaning and drying small tools or miscelaneous ball bearings or other metal parts or products . . . washing chromic acid off heavy chrome-plated parts . . . removing cyanide from hardened gears . . . removing chips from Diesel engine blocks, you will find many distinct innovations over previous methods in this new folder, "How 7 Famous Companies Solved Their Product Cleaning Problems".

WRITE FOR YOUR FREE COPY TODAY!

Or, without obligation, describing *your* particular parts or products cleaning problem and we will help you solve it.

THE ALVEY-FERGUSON CO., 33 Disney St., Cincinnati 9, Ohio
Offices in Principal Cities Coast-to-Coast

CONVEYING EQUIPMENT
Alvey-Ferguson
METAL PRODUCTS CLEANING EQUIPMENT

▲ Mention Item NED-2008 when writing ▲

It's Low Priced—Saves Time and Labor—Cuts Costs on **PRECISION WORK**

AMMCO 7" SHAPER

The Ammco 7" Shaper will do a job for you that saves time, cuts production costs, makes money for you.

There isn't a big machine that surpasses it in accuracy. It saves floor space and expense in set-up operations—uses less electricity, is the perfect shaper for a 7" stroke or less.

At its low price, it's a buy you can't beat—precision guaranteed because AMMCO *builds the skill into the machine!* Address Dept. NE-47 for specifications and prices.

AMMCO TOOLS, INC.
COMMONWEALTH AVENUE — AMMCO — NORTH CHICAGO ILLINOIS
(Formerly Automotive Maintenance Machinery Co.)
THE SKILL IS BUILT INTO AMMCO MACHINES

▲ Mention Item NED-2001 when writing ▲

Less Weight to Tote with a

DIAMOND FIBRE TOTE BOX

Because of their light weight, Boxes, Barrels, Cans, Trucks and similar materials handling equipment made of Diamond Vulcanized Fibre speeds up movement of goods. Workers handle more goods with less effort—and show less fatigue.

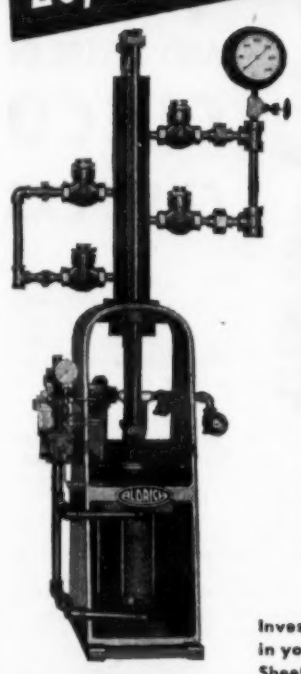
Though only half the weight of aluminum, Diamond Vulcanized Fibre is tough and durable, will not splinter or shatter, is non-corrosive and is oil and grease proof.

If you want complete data on construction, recommended uses, standard sizes and special features, write today for Catalog HW-46.

C-D DIAMOND FIBRE HOLLOW WARE
CONTINENTAL-DIAMOND FIBRE CO., NEWARK 30, DEL.

▲ Mention Item NED-2002 when writing ▲

20,000 LBS. PRESSURE *from* **100 LBS. OF AIR**



Powered by a maximum of 100 lbs. of air pressure from plant air pressure or a small compressor, the new ALDRICH-LYTLE Hydropneumatic Power Unit, left, produces up to 20,000 lbs. hydraulic pressure.

Simple in construction, low in initial and operating cost, efficient in performance—this unit is ideal for use with hydraulic presses in small molding press plants and for hydrostatic test service.

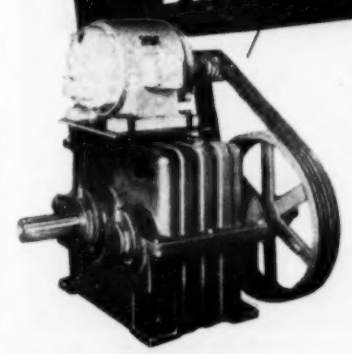
Investigate its possibilities for use in your plant. Write, now, for Data Sheet 69 to —

ALDRICH THE ALDRICH PUMP CO.
4 GORDON STREET, ALLENTOWN, PA.

▲ Mention Item NED-2006 when writing ▲

SACO Speed Reducers

SIMPLIFY DRIVE PROBLEMS



Saco Speed Reducer
Self-contained Drive Unit

1. Practically any standard speed motor can be mounted on pivoted motor base above Saco.
2. Any speed reduction ratio between 10 to 1 and 60 to 1 . . . by merely changing V-belt sheaves.
3. Floor space saved . . . installation simplified by mounting motor on hinged base above Saco.
4. Self-contained, light, compact, efficient drive . . . easy to mount direct on machinery driven or with minimum of supporting structure.

Write for Saco Catalog No. 643

STEPHENS-ADAMSON MFG. CO.
Tellevel-Bin Level Controls — Saco Speed Reducers — Car Loaders — Car Pullers — Winches — SealMaster Ball Bearings
12 RIDGEWAY AVE., AURORA, ILLINOIS

▲ Mention Item NED-2009 when writing ▲

SEALING CAPS AND SLEEVES

FOR LOW COST PROTECTION

G-E Sealing Caps and Sleeves are swollen in a dilater and shrink-fitted at room temperature over pipe ends, bottle tops, electrical connectors. They are used extensively in industrial fields for protection against dirt, moisture, oil, paint. Send for Technical Report, *Section V-4, Plastics Divisions, Chemical Department, General Electric Co., Pittsfield, Mass.*

GENERAL ELECTRIC CD-47-21

▲ Mention Item NED-2010 when writing ▲

DEVINE BROTHERS, UTICA, N. Y., HAVE USED THEM FOR YEARS ON HEAVY DUTY MACHINERY

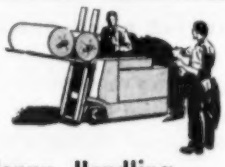
• NO RIVETS
• NO SCREWS
Simple-to-apply MEYERCORD nameplates are washable, durable, colorful!

Low-cost Meyercord Decals *advertise* as they *identify*. Trademarks, charts, instructions, etc., can be produced in any size, design or colors . . . for application at production line speeds. Meyercord Decals adhere smoothly, even on rubber or crinkle finish, curved or flat. They resist acids, vibration, abrasion, wear. For complete information, write Dept. 13-4

THE MEYERCORD CO.
World's Leading Decalcomania Manufacturer
5323 WEST LAKE STREET • CHICAGO 44, ILLINOIS

▲ Mention Item NED-2011 when writing ▲

Help's Happy, They Save Energy



Boss Happy, Handling Costs Cut $11,200.00

Customers Happy, They Get Better Service

Thanks To AUTOMATIC ELECTRIC TRUCKS

Yes, these trucks solve management's problem of lifting, moving and stacking products ceiling high—getting material to and out of production faster—moving merchandise on schedule for quick customer delivery.

One to sixty thousand pounds of material become almost featherlight when moved and lifted with these miracles of electric power. Labor goes for them because they end gruelling back-breaking manual handling. One man does the work of three, with less energy expended.

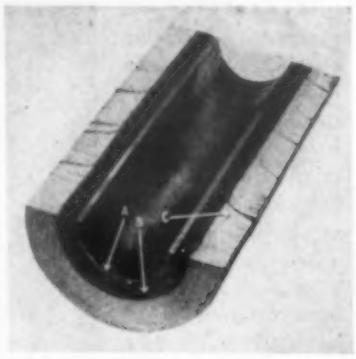
Two Automatic Electric Trucks have been known to pay a return as high as 140% on their low original cost . . . a saving of $11,200.00 over handling material by hand. An ATCO Specialist may be able to save you similar money. Write for a free material handling survey.

Automatic ELECTRIC TRUCKS
Lightens LIFE'S LOADS

AUTOMATIC TRANSPORTATION CO.
DIV. OF THE YALE & TOWNE MFG. CO.
81 W. 87th St. • Dept. D-7 • Chicago 20, Illinois

▲ Mention Item NED-2012 when writing ▲

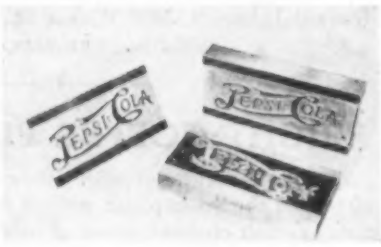
PICKLING TANK ROLL



Utilizing inner cover of fibrous material which guards steel core from contact with acid, hold down and carrying roll for steel mill pickling lines provides almost complete resistance to damage from cuts. Material is sufficiently hard to absorb shock of practically all cuts to which pickling tank rolls are subjected, while remaining immune itself to damage from acid seeping through gash. Regardless of diameter of roll, material is applied to core in ¼-inch layer. Synthetic rubber cover on weight carrying surface remains about 3/4-inch thick. This outer cover is unaffected by acids. Made by **Goodyear Tire & Rubber Co.**, 1144 E. Market St., Akron 16, O.

▲ Mention Item NED-2013 when writing ▲

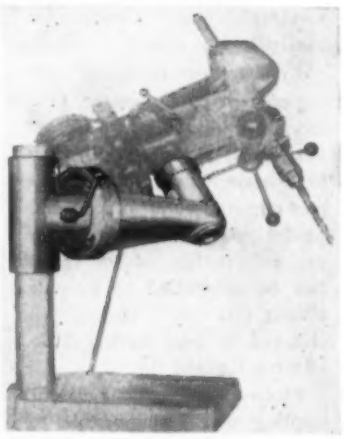
EMBOSSING-COINING DIES



Performing coining and embossing in single operation, these dies are used for forming aluminum and magnesium strip with flat-faced raised letters suitable for enameling. Female die is precision engraved to limited depth and faces of sunk engraved letters are highly finished. Dies illustrated measure 6 x 2½ x 1-3/4 inches thick when closed. Size of dies that can be produced is limited only by capacity of press on which they are used. Made by **Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

▲ Mention Item NED-2014 when writing ▲

RADIAL DRILLING ATTACHMENT



Standard 2, 2¼, 2½ and 2¾-inch column drill presses can be converted into radial drilling machines with this All-Angle radial arm attachment. Arm increases chuck-to-column capacity by 16 inches and auxiliary column increases chuck-to-base capacity by 5 inches.

Radial arm is clamped to base collar. Base collar is equipped with coordinate clamp lock with ball handle which releases or tightens two clamping wedges simultaneously. Drilling head can therefore be raised, lowered or turned to any angle. Standard drill press table or bed can be mounted on arm also. Fifteen-inch steel or bronze auxiliary column can be furnished. Made by **Empire Foundry & Machine Corp.**, Ashland, Ky.

▲ Mention Item NED-2015 when writing ▲

For advertising and book rates, call your agency or write . . .

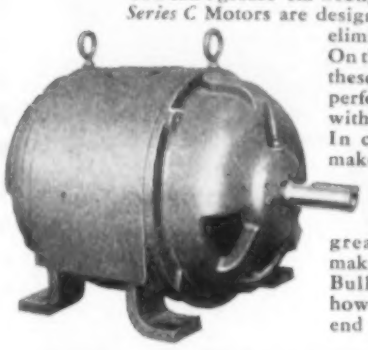
MacRae's Blue Book
A DIRECTORY OF AMERICAN INDUSTRY

23 E. HURON ST. CHICAGO 11, ILL.

▲ Mention Item NED-2016 when writing ▲

NO MORE LUBRICATION WORRIES!

with RELIANCE *Series C* MOTORS

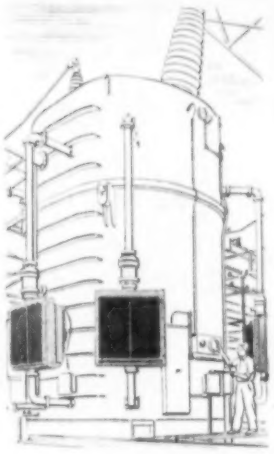


You can't grease 'em wrong! That's because Reliance *Series C* Motors are designed and precision-built to eliminate lubrication worries. On the majority of applications these factory-lubricated motors perform dependably *for years* without additional lubrication. In cases where conditions make occasional attention necessary—or if it is your practice to lubricate at regular intervals—overgreasing or undergreasing make no difference. Send for Bulletin C-118 which tells how Reliance *Series C* Motors end your lubrication worries!

RELIANCE ELECTRIC & ENGINEERING CO.
1082 IVANHOE ROAD • CLEVELAND 10, OHIO

Sales Representatives in Principal Cities

▲ Mention Item NED-2017 when writing ▲



YOUNG COOLS GIANT TRANSFORMERS

★

• Compact, highly-efficient cooling units, developed jointly by Young and Allis-Chalmers Technical Staffs, are used on A-C Transformer installations. Oil temperatures are reduced speedily by circulation through batteries of fan-cooled cores. Enclosed oil circulating pumps and motors, fans and fan-drive motors, insure long, safe use. Let Young help with your special cooling problem.

YOUNG
HEAT TRANSFER PRODUCTS

OIL COOLERS • GAS, GASOLINE, DIESEL ENGINE COOLING RADIATORS • HEAT EXCHANGERS
INTERCOOLERS • EVAPORATIVE COOLERS • ENGINE JACKET WATER COOLERS
GAS COOLERS • UNIT HEATERS • CONVECTORS • CONDENSERS • AIR
CONDITIONING UNITS • EVAPORATORS • HEATING COILS • COOLING COILS
AND A COMPLETE LINE OF AIRCRAFT HEAT TRANSFER EQUIPMENT

YOUNG RADIATOR CO., Dept. 427D RACINE, WIS., U.S.A.

▲ Mention Item NED-2018 when writing ▲

Meets Design and Application Requirements

Norma-Hoffmann *Patented* Cartridge Bearings

Standard Type

Here's a cartridge bearing that meets performance and application requirements. It gives you 100% more grease capacity . . . grease factory packed, you relubricate only after years of service . . . flanged seals, grease grooves keep grease in, dirt out . . . eliminates up to 10 working operations and over 22 parts vs. many conventional mountings . . . permits increased shaft strength, reduced overhang. Write for catalog, today.

NORMA-HOFFMANN BEARINGS CORPORATION
STAMFORD, CONNECTICUT

▲ Mention Item NED-2019 when writing ▲

GUARD AGAINST THOSE UNSEEN HAZARDS . . .

DUPOR RESPIRATOR No. 46

U.S.B. of M. approved for Type "A", lead dusts and all other toxic-poisonous dusts. Price $2.50.

H. S. COVER, South Bend, Ind.

▲ Mention Item NED-2020 when writing ▲

VALVAIR Solenoid Valves

"Work like Clockwork"

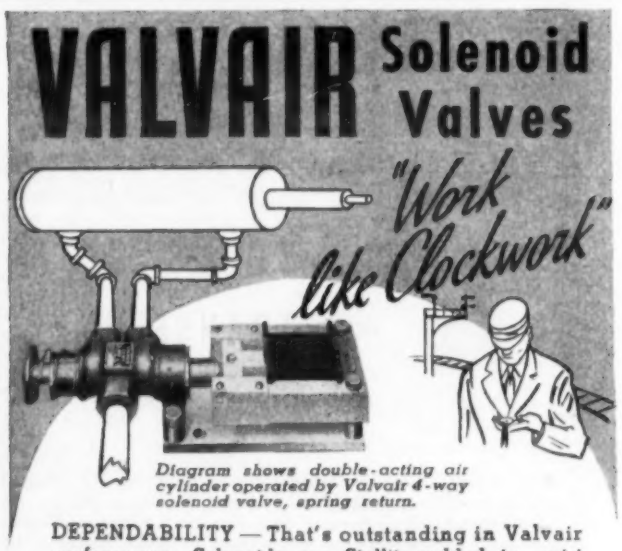


Diagram shows double-acting air cylinder operated by Valvair 4-way solenoid valve, spring return.

DEPENDABILITY — That's outstanding in Valvair performance. Solenoids are Stellite-welded to resist wear; do not mushroom. Standard Valvairs have operated over 2,000,000 times at 100 lbs. with never a leak. *Exclusive features.* Patented basic design eliminates metal seats; non-corrosive (cast bronze body, stainless steel parts); full pipe area used with minimum drop. 2-way, 3-way, 4-way types. Get full details and prices.

Ask for Bulletin "A-N"

VALVAIR CORPORATION · 454 Morgan Avenue, Akron 11, Ohio

Valvair 2-WAY 3-WAY 4-WAY

▲ Mention Item NED-2021 when writing ▲

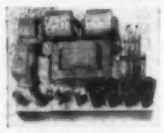
HOBGOBLINS IN YOUR POWER SUPPLY?

• When unstable voltages and varying frequencies disrupt your precision electrical equipment—look to SORENSEN Voltage Regulators for a quick, sure end to voltage troubles.

GENERAL CHARACTERISTICS OF REGULATORS

- *Input Range, 95-125 Volts AC.*
- *Output Voltage, 110-120 Volts Adjustable.*
- *Regulation Accuracy ± 0.2%.*
- *Load Range, 10%-100% of Rated Value.*
- *Total Harmonic Distortion 5%.*

THE NEW NOBATRON



Stabilized DC low voltage at high currents without batteries. Capacities 5-15 amps. Output Voltages—6, 12, 28

END VOLTAGE TROUBLES TODAY

SEND FOR VOLTAGE REGULATION CATALOG S-D

SORENSEN & COMPANY, INC.
FAIRFIELD AVE. STAMFORD, CONN.

Send CATALOG S-D To

Name .....
Firm .....
Address .....

▲ Mention Item NED-2022 when writing ▲

GENERAL UTILITY TRUCK

Materials and equipment weighing up to 1/2-ton can be conveyed to any location with this Janitor's Jeep general utility truck. Unit is recommended for use in large plants to speed mopping and waxing of large floor areas, carrying material or refuse, cleaning and similar maintenance operations. Standard equipment includes 27-gallon heavy corrugated Witt can and cover; two 14-quart dual pails; and rack for polish can, scrub brushes and rags. Ring supports are provided for carrying brooms and brushes in upright position.

Trucks are equipped with punctureproof rubber tires and swivel type front caster. Frame is constructed of steel and is arc welded. Units can be furnished in any color. Made by Howard J. Barrett, 1908 Walnut St., Philadelphia 3, Pa.

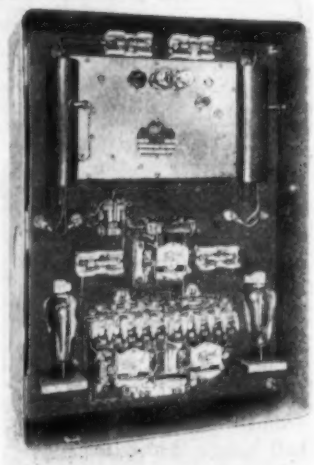
▲ Mention Item NED-2023 when writing ▲

BRIGHT COPPER PLATING

Zinc die castings and other soft metal parts can be copper, nickel and chromium plated without intermediate buffing operations as result of development of bright copper plating process. Mirror-bright copper deposits are obtained directly from simple cyanide copper plating solution under wide range of operating conditions. Process developed by Mac Dermid Inc., Waterbury 88, Conn.

▲ Mention Item NED-2024 when writing ▲

ELECTRONIC MOTOR CONTROL



Two models of this Noark electronic motor control are available for operating direct current motors from alternating current power source. One model is general purpose reversing type for application to 2-horsepower, 230-volt direct current motor and second model is special control for surface grinder. Motor speed can be controlled to provide almost flat speed curve with changes in load having little effect on speed.

Precise automatic current limiting makes it possible to preset maximum allowable armature current. Smooth stepless acceleration from standstill is possible without drawing excessive current from line. Made by Federal Electric Products Co., 50 Paris St., Newark 5, N. J.

▲ Mention Item NED-2025 when writing ▲

AIRETOOL'S IMPROVED RIGHT ANGLE GEAR DRIVE FOR TUBE EXPANDERS

NEW

Features—One-piece housing drilled and machined from solid bar steel—all moving parts completely inclosed with One-Shot long lasting lubrication.

Airetool's new right angle gear drive, ruggedly built for long service, is designed to reach those hard-to-get-at places. Sizes for ½", ¾" and 1" drives. Write for complete information.

AIRETOOL
MANUFACTURING COMPANY
308 S. CENTER ST. SPRINGFIELD, OHIO

There is an Airetool Tube Cleaner and Expander for every type of tubular construction.

▲ Mention Item NED-2026 when writing ▲

FAST, UNIFORM **SANDING**

Sands . . . Rubs . . . Polishes

Use the Sterling Portable Electric Sander on wood, metal, plastics . . . does the job in one-third the time! Lightweight, well-balanced, vibrationless, easy to operate. For production, maintenance, refinishing and repair.

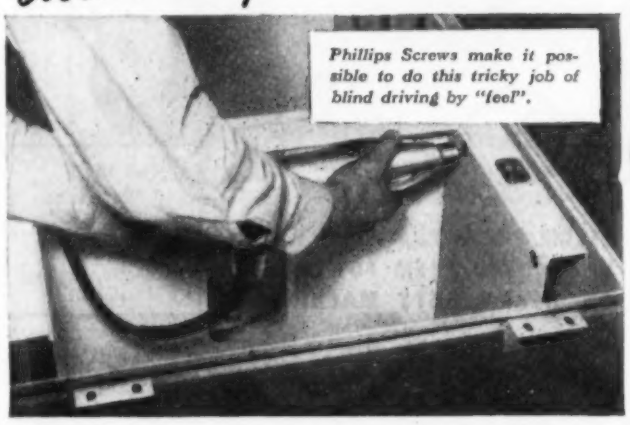
SEND COUPON FOR FOLDER! STERLING TOOL PRODUCTS CO. 378-C E. OHIO ST. CHICAGO 11, ILL.

NAME
ADDRESS
CITY & STATE

STERLING MODEL 1000 **SANDER** PORTABLE ELECTRIC

▲ Mention Item NED-2027 when writing ▲

Coolerator *cuts costly training time*



Phillips Screws make it possible to do this tricky job of blind driving by "feel".

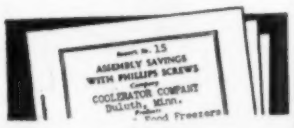
Highlights from report by James O. Peck Co. investigator — another of their studies of assembly savings made with Phillips Screws.

"WE FOUND that new people could learn faster to drive Phillips Screws—saved training time," explained a Coolerator foreman.

"EASIER TO USE, especially in awkward or blind applications, in contrast with slotted screws,—especially in vertical driving.

"STOPPED PANEL DAMAGE and burrs. Driver skids used to ruin a lot of panels which required disassembly, refinishing, and reassembly and slowed up our assembly line. And, burred heads were a threat to clothing and hands. We stopped all that when we changed to Phillips Screws."

GET THE WHOLE STORY of this and other assembly studies in key plants . . . of metal, wood, and plastic products. Use this coupon.



PHILLIPS *Recessed Head* **SCREWS**

Wood Screws • Machine Screws • Self-tapping Screws • Stove Bolts

23 SOURCES

American Screw Co. • Central Screw Co. • Continental Screw Co. • Corbin Screw Div. of American Hdwe. Corp. • The H. M. Harper Co. • International Screw Co. • Lamson & Sessions Co. • Milford Rivet and Machine Co. • National Lock Co. • National Screw & Mfg. Co. • New England Screw Co. • Parker-Kalon Corp. • Pawtucket Screw Co. • Pheoll Manufacturing Co. • Reading Screw Co. • Russell Burdsall & Ward Bolt & Nut Co. • Scovill Manufacturing Co. • Shakeproof Inc. • The Southington Hardware Mfg. Co. • The Steel Company of Canada, Ltd. • Sterling Bolt Co. • Stronghold Screw Products, Inc. • Wolverine Bolt Co.

Phillips Screw Mfrs., c/o Horton-Noyes
1800 Industrial Trust Bldg., Providence, R. I.
Send me reports on Assembly Savings with Phillips Screws.

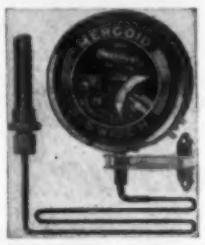
Name .....
Company .....
Address .....

▲ Mention Item NED-2028 when writing ▲

MERCOID

SOLVES INDUSTRY'S AUTOMATIC CONTROL PROBLEMS

There is scarcely an industry that is not using a Mercoid Control somewhere on vital applications in the control of temperature, pressure, liquid level, mechanical operations, etc. *See catalog No. 600*



THE ONLY 100% MERCURY SWITCH EQUIPPED CONTROLS

Temperature Control—*For numerous applications. The operating range is plainly indicated on a visible dial. No guesswork—easy to adjust.*

Mercoid Switches—*A recognized superior brand of mercury switches available in tilting or magnetic types in various sizes and electrical ratings.*

Mercoid Relays—*With mercury contacts. Transformer-relay type and others. Available in various circuits. Very dependable and quiet in operation.*

Pressure Control—*For various industrial applications. The operating range is plainly indicated on a visible dial. Adjustments are easily made.*

THE MERCOID CORPORATION
4235 Belmont Avenue, Chicago 41, Illinois

MANUFACTURERS OF AUTOMATIC CONTROLS FOR HEATING, AIR CONDITIONING, REFRIGERATION AND NUMEROUS INDUSTRIAL APPLICATIONS. ALSO MERCOID BRAND MERCURY SWITCHES.

▲ Mention Item NED-2029 when writing ▲

SHEAR IT CLEVERLY with a BEVERLY

CUTS . . .

STRAIGHT — CURVES — ANGLES

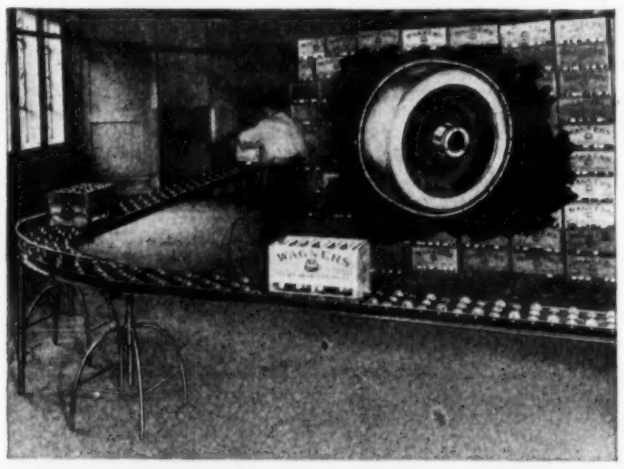
Beverly Throatless Shears cut metal flatly —ACCURATE—no waste, no distortion. Made of finest steel—PROFITABLE—INEXPENSIVE! Will last a lifetime!

No. 1 — cuts 14 gauge — wt. 18 lbs.
No. 2 — cuts 10 gauge — wt. 35 lbs.
No. 3 — (With ball bearing hold-down device) cuts 3/8 inch mild steel and 10 gauge stainless steel, weight 58 lbs.

THE BEVERLY SHEAR MFG. CO.

3004 W. 111th St., Chicago 43, Ill.

▲ Mention Item NED-2030 when writing ▲



RED WHEELS Rolling Mean BUSCHMAN RUSTPROOF CONVEYORS

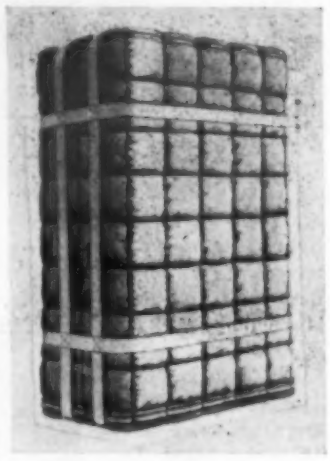
Maintenance and repair costs disappear when you use Buschman "Red Wheel" Portable Conveyors. Rustproof features guarantee far-longer life, smoother-running, trouble-free operation . . . indoors or outdoors. In convenient curved and straight sections, interchangeable with Buschman Standard conveyors and accessories. Write for complete catalog showing all types of gravity and power-driven conveyors.

Representatives in principal cities.

THE E. W. BUSCHMAN CO., INC.
Spring Grove at Winton Place Cincinnati 32, Ohio

▲ Mention Item NED-2031 when writing ▲

SHIPPING PAD & SLING

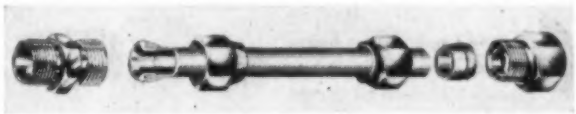


Protection for appliances, furniture and equipment during all phases of delivery is accomplished with Slingabout shipping pad and sling. Pad is made of water repellent canvas, heavily padded, quilted and lined with white flannel. Sling is made of 3-ply canvas belting and so constructed that good hand hold at any position is provided. Units are tailored to fit article for which they are intended. Made by Webb Mfg. Co., 2910 N. Fourth St., Philadelphia 33, Pa.

▲ Mention Item NED-2032 when writing ▲

GAS APPLIANCE CONNECTOR

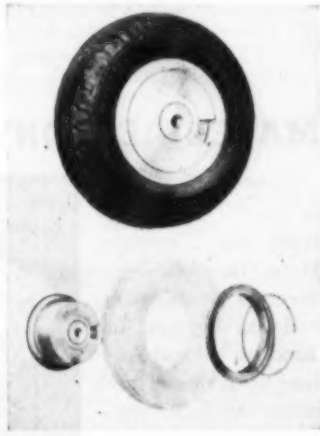
Consisting of aluminum tubing with two fittings each provided with V-lock machined joint, this Tube-Tite gas appliance connector forms vaporproof seal for natural, manufactured or



bottled gas. Insert reinforces both inside and outside of tubing at each end and V-lock seats into corresponding set in fitting. When tightened, nut bears on insert cap only. Connectors are available in all standard lengths from 24 to 60 inches and permit shifting of appliance without disturbing fittings. Made by Tube-Tite Div., Darra-James Corp., Waterbury, Conn.

▲ Mention Item NED-2033 when writing ▲

PNEUMATIC WHEEL



Detachable rim of model No. PW-1642 pneumatic wheel makes possible change of tires in less than 1 minute. Cast of corrosion resistant aluminum, wheel has two sections. One section includes bearing carrying hub and one rim. Other section is detachable rim which slides into position over main part of wheel and is held in place by spring retainer ring.

No tools are needed to change tire and complete removal of wheel is unnecessary. Wheels are available in axle sizes of 1¼, 1 and ¾-inch. Hub diameter is same for all wheels. They are equipped with factory lubricated Timken tapered roller bearings. Made by Aerol Co., 1823 E. Washington Blvd., Los Angeles 21, Calif.

▲ Mention Item NED-2034 when writing ▲

SO EASY ON THE EYES!

The NEW **PALMER** *Thermometer* with STANDARD CHROME FINISH

In this sensational new thermometer with Extruded Case, Palmer has combined accuracy with far greater visibility and attractive appearance. You get a beautiful standard chrome finish—at no extra charge. Other new features include "Snap-on cap"; double-strength, non-rattling glass; dust-proof, fumeproof case. Palmer Extruded Brass Case Thermometers cost no more than other makes . . . offer far more! Write for Bulletins Nos. 46-2 and 46-3 today.

In 7, 9 and 12 inch case sizes with chrome finish; in 4 and 6 inch sizes with durable nickel finish.

Note: Bring your old thermometers (any make) up-to-date securing new extruded case. Write for information

PALMER THERMOMETERS, INC.

Mfrs. Industrial, Laboratory, Recording and Dial Thermometers
2523 Norwood Ave., Cincinnati 12, Ohio
Canadian Plant: King and George St., Toronto 2

red reading mercury

▲ Mention Item NED-2035 when writing ▲

WASTE LIQUORS NEUTRALIZED With Help Of MICROMAX pH CONTROL

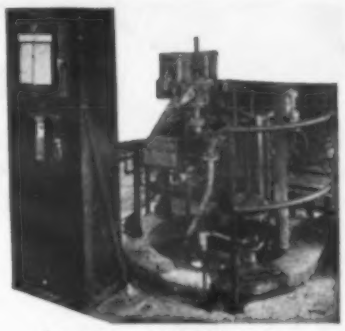


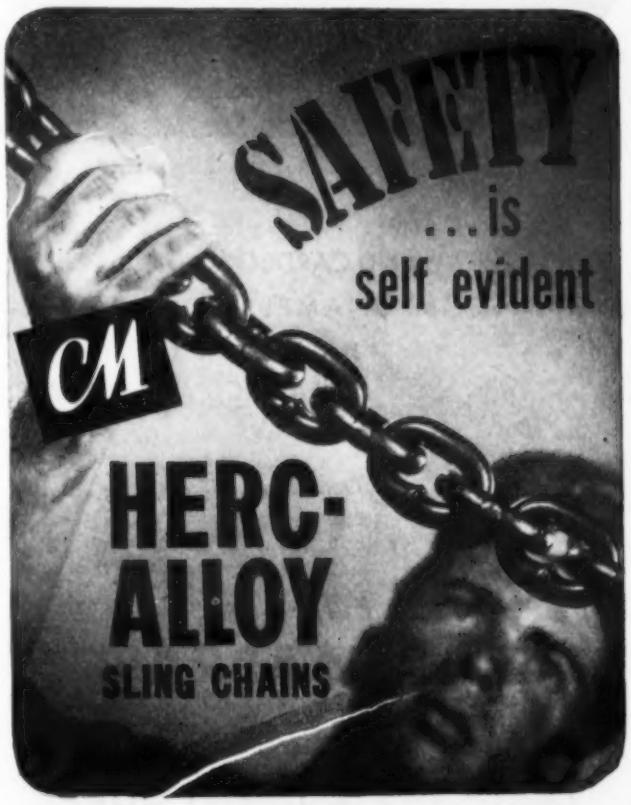
Photo Courtesy The Bakelite Corp.

Wherever an industry's waste liquor requires pH treatment, a Micromax Automatic pH Controller can probably regulate the job better than a process operator could do, and in addition supplies a record to prove that the effluent is held inside tolerances. Usually there is a saving of chemical, but the big savings are in man hours, in corrosion prevention and often in steam inspection.

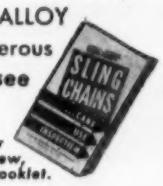
Equipment is rugged and complete. Control valves are operated with precision, speed and micro-responsiveness, throttling the reagent as needed. Ask for Catalog N-96(1), or request more specific information from an L&N field engineer.

LEEDS & NORTHRUP COMPANY, 4985 STENTON AVE., PHILA. 44, PA.
LEEDS & NORTHRUP
MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES
Jrl. Ad N-96-701 (7a)

▲ Mention Item NED-2036 when writing ▲



A simple visual inspection* is all that is needed to determine the continued serviceability of a HERC-ALLOY Chain. That's why more and more of the important companies are standardizing on HERC-ALLOY...because HERC-ALLOY Chains are immune to unseen dangerous crystallization...because you can **see** when a HERC-ALLOY Chain needs repairs or replacing.



**Write for your copy of this new, informative booklet. No charge.*

HERC-ALLOY FEATURES

- America's *first* alloy steel sling chain...first to bear a serial number.
- Every CM HERC-ALLOY Sling Chain is alloy steel throughout...links, rings, hooks. There is only one grade...*the best.*
- Every chain is individually tested and accompanied by a certificate of registration.
- Links are side welded for maximum strength by patented INSWELL electric method.
- HERC-ALLOY Chains should *never* be annealed.
- HERC-ALLOY Chains are lighter...stronger...easier to handle...outlast ordinary chains 4 to 5 times...cost less on the job.

HERC-ALLOY...the chain you can *SEE* is safe

COLUMBUS-McKINNON CHAIN CORPORATION
(Affiliated with Chisholm-Moore Hoist Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland • San Francisco • Los Angeles

▲ Mention Item NED-2037 when writing ▲

For Hydraulically Driven Machinery

VICKERS HYDRAULIC (OIL) PUMPS

Vickers Vane Type Pumps, having the exclusive pump design features which have revolutionized oil hydraulic power methods, are available in hundreds of sizes and types:

1 G.P.M. to 60 G.P.M. Pumps, to 1000 P.S.I. . . . Bulletin 40-25
Two-Stage Pumps to 2000 P.S.I.—2 G.P.M. to 57 G.P.M. . . . Bulletin 40-16
Two-Pressure Large-Small Volume Pumps . . . Bulletin 38-14

Applications include hydraulically operated machine tools, presses, plastic and die casting machines, special processing machines, road machinery, etc.

Write for information covering your requirements.

VICKERS Incorporated

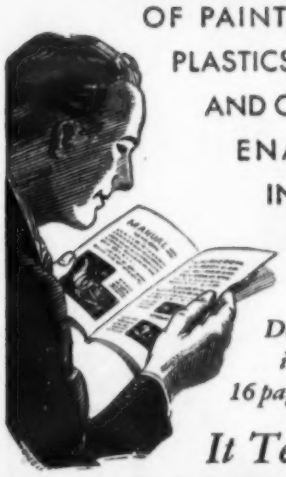
Oakman Blvd. • DETROIT, MICHIGAN

▲ Mention Item NED-2038 when writing ▲

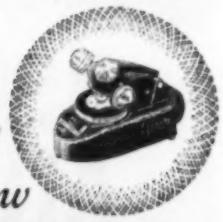
Fast, Accurate Way to Test

WEAR RESISTANCE

OF PAINT, LACQUER, ENAMEL, PLASTICS, ELECTROPLATE, PAPER AND CARDBOARD, PORCELAIN ENAMEL, FLOOR COVERINGS, WAX COATINGS, FABRICS AND RUBBER.



Described in this 16 page Manual



It Tells How

THE TABER ABRASER

Enables you to determine or compare quickly, easily, accurately wearing qualities; also to establish standards or improve product performance. Used industry-wide as a standard tool of research. Write for your copy today!

TABER INSTRUMENT CORP.

110 GOUNDRY ST. NORTH TONAWANDA, N. Y.

The Taber Test Proves What Wears Best!

▲ Mention Item NED-2039 when writing ▲

REAM YOUR SMALL HOLES WITH Carbide!

USE SUPER SOLID CARBIDE REAMERS FOR SPEED— ACCURACY— LONG LIFE— ECONOMY—

Super Solid Carbide Reamers hold a sharp edge longer—require much less frequent re-grinding. Users report big savings due to smoother performance and better quality work. Supplied as small as .09375" and up to .1875". Write TODAY.

WHATEVER YOUR CUTTING JOB Look First to SUPER CARBIDE TIPPED TOOLS FOR

TURNING, FACING
REAMING, FORMING
DRILLING
SPOT FACING
BORING, GROOVING
GRINDER RESTS
WEAR PARTS
COUNTERBORING
SHAVING CENTERS
SPECIAL PURPOSES

SUPER TOOL COMPANY

Carbide Tipped Tools

21650 Hoover Rd., Detroit 13, Mich. 5210 San Fernando Rd., Glendale 3, Cal.

▲ Mention Item NED-2040 when writing ▲

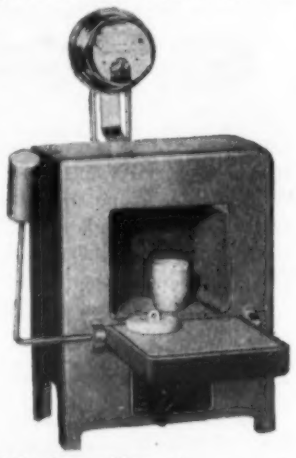
ENGINE LIFTING SLING

Engines are lifted easily out of or into tight mountings on cars, trucks, tractors and boats with this Bulldozer engine lift. It consists of 22-inch two-arm sling. Each arm is fitted with heavy clamps for attachment to engine head bolts or studs. Minimum breaking strength of unit is 4000 pounds. Pres-Tite cable connectors are used. Price is $3. Made by **Wind Turbine Co.**, 252 E. Market St., West Chester, Pa.

▲ Mention Item NED-2041 when writing ▲

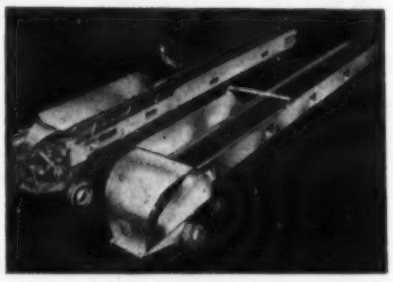
ELECTRIC FURNACE

Equipped with Temco stepless heat control, model GTP industrial electric furnace will maintain any desired temperature from 500 to 1850 F automatically. Inside dimensions are 4 x 3¾ x 3¾ inches. Heating element is coiled from heavy gage alloy and is embedded in sides, top and bottom of chamber. Body and door are one-piece aluminum castings. Furnace is designed for operation on 115-volt alternating current. Units for operation on 230-volt direct current are available also. Furnace is equipped with indicating pyrometer which is calibrated in both Fahrenheit and Centigrade scales for selecting proper heat. Made by **Thermo Electric Mfg. Co.**, 474 W. Locust St., Dubuque, Iowa.



▲ Mention Item NED-2042 when writing ▲

MATERIAL CONVEYING UNIT



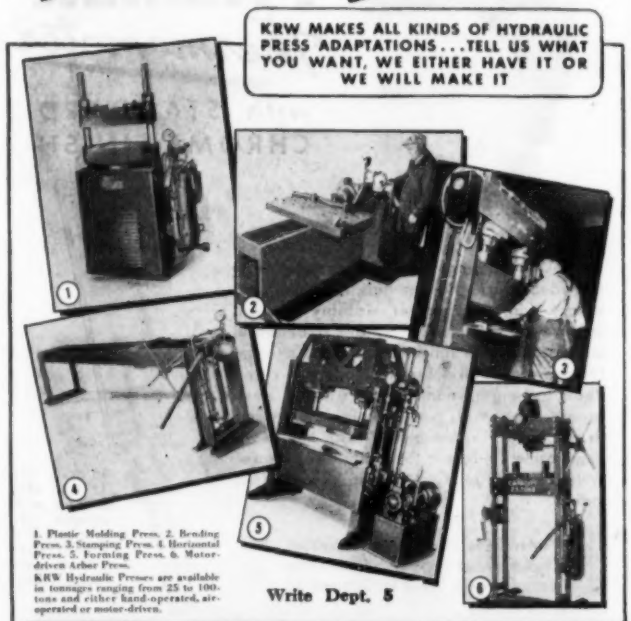
Constructed entirely of heavy gage aluminum, this Flyweight Moto-Trimmer conveyor is noncorrosive and can be used for handling almost any type or quality of material. Available self-powered models C and E have belt widths of 8 and 11 inches and are capable of handling 40 and 75 tons per hour respectively.

Because conveyors are light in weight they are easily handled. Salts, alkalies and other corrosive materials will not mar or injure them in any way. Made by **Bosworth Engineering Co.**, 6723 Denison Ave., Cleveland 2, O.

▲ Mention Item NED-2043 when writing ▲

NAME IT... AND YOU CAN HAVE IT!

KRW MAKES ALL KINDS OF HYDRAULIC PRESS ADAPTATIONS...TELL US WHAT YOU WANT, WE EITHER HAVE IT OR WE WILL MAKE IT



1. Plastic Molding Press. 2. Bending Press. 3. Stamping Press. 4. Horizontal Press. 5. Forming Press. 6. Motor-driven Arbor Press.

KRW Hydraulic Presses are available in tonnages ranging from 25 to 100 tons and either hand-operated, air-operated or motor-driven.

Write Dept. 5

K. R. WILSON

215 MAIN ST. BUFFALO 3, N. Y.

▲ Mention Item NED-2044 when writing ▲

THERE'S EFFICIENT WORKMANSHIP!

Note the compact design, full ball bearings, the hardened and ground alloy worm, the alloy steel heat treated shaft, and the nickel bronze worm wheel. All add up to greater reducer efficiency, in a wide range of duties. Over 75 types and sizes in worm, spur and combination. Write for catalog of valuable data.

Abart SPEED REDUCERS

ABART GEARS: To your specifications only, of any material.

Abart GEAR & MACHINE CO.

Manufacturers of SPEED REDUCERS AND GEARS

4822 W. 16th Street, Chicago 50, Illinois

▲ Mention Item NED-2045 when writing ▲

Facts about IRVINGTON SILICONE VARNISHED FIBERGLAS*

You can immediately secure Silicone Varnished Fiberglas electrical insulation which meets the property values listed:

TYPICAL TEST DATA

Nominal Thickness	.004"	.007"	.010"	.012"
Tensile Strength—lbs. P.I.W.	100	135	175	175
Weight per sq. yd.—lbs.	.27	.47	.66	.77
Specific Gravity	1.42	1.42	1.41	1.41
Dielectric Strength—V.P.M.				
¼" Electrodes—A—ASTM—25°C.	1500	1500	1400	1300
¼" Electrodes—A—ASTM—175°C.	1000	1000	900	900
Power Factor—100°C.—Percent				
Conditioned 3 hours at 105°C	1.0	1.0	1.0	1.0
Conditioned 24 hours at 65% R.H.	1.3	1.3	1.4	1.4
Dielectric Constant—100°C.	3.5	3.5	3.4	3.4
Moisture Resistance				
%H_2O absorbed—24 hrs. 65% R.H.	0.01	0.01	0.015	0.015
%H_2O absorbed—24 hrs. immersion	0.70	0.60	0.55	0.55

Thermal Stability — Tests made on Silicone Varnished Fiberglas indicate that this material is stable up to 175°C.

Chemical Resistance: Silicone Varnished Fiberglas shows excellent resistance to most alkalies, such as 10% sodium hydroxide and concentrated ammonium hydroxide. A 10% solution of HCL and nitric acid showed no effect on Silicone Varnished Fiberglas. Carbon tetrachloride, benzene and hot transformer oil (GE 10C) cause a softening of the Silicone varnish film.

Thicknesses and Widths: Silicone Varnished Fiberglas is available in the following standard thicknesses: .004" (.002" base), .007" (.003" base), .010" (.004" base), .012" (.004" base). Standard full width rolls are 36" wide and 25 and 50 yards long. Also furnished in straight cut tape rolls ½" wide and up and in bias cut strips 51" long. Thicknesses other than standard are supplied on minimum orders of 100 yards.

*T. M. Reg. U.S. Pat. Off. by Owens-Corning Fiberglas Corporation

• For slot insulation, coil and cable wrapping — for high frequency equipment, transformers, and generators — for relays, rheostats, and resistors — as well as for a host of other electrical parts subjected to elevated temperatures, Silicone Varnished Fiberglas is unequalled. Investigate its use for your insulation problems. Write today for samples.

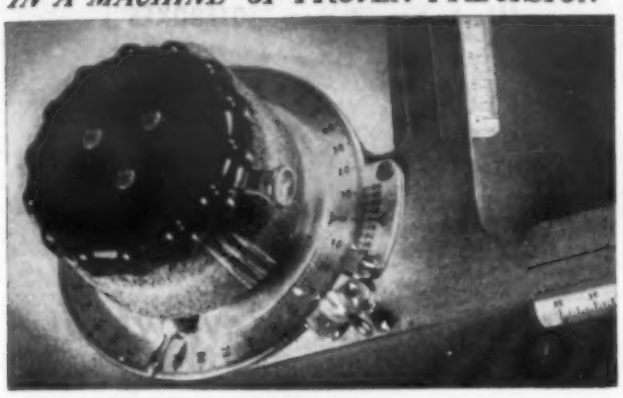
IRVINGTON

Varnish & Insulator Co.

IRVINGTON 11, NEW JERSEY

▲ Mention Item NED-2046 when writing ▲

Refinements of note
IN A MACHINE OF PROVEN PRECISION



Vemco
DRAFTING MACHINE Standard Equipment

- Band covers of steel provide dust protection and appearance additions.
- Brake efficiency—super smooth action—ideal on inclined boards.
- Color—Restful blue-green and brushed chrome add beauty to machine efficiency.

POST

The Frederick Post Company
3650 NORTH AVONDALE AVE., CHICAGO 18, ILLINOIS
DETROIT • HOUSTON • CHICAGO • LOS ANGELES • MILWAUKEE
INSTRUMENTS • EQUIPMENT AND MATERIAL FOR THE ARCHITECT AND ENGINEER
▲ Mention Item NED-2047 when writing ▲

For Safety's Sake say "STRAUSS"

Simply say Strauss when you want the finest, most efficient personal protective products available anywhere.

We manufacture a complete line of safety belts, hard hats and caps for the absolute protection of Linemen, Mechanics, Window Cleaners, Miners, Painters, Ship Builders, Cranemen, Structural Steel Workers, Bridgeworkers and other diversified occupations.

We're proud of our products because they're truly the best. "A Strauss Belt Has Never Been Known To Fail." Write for our illustrated catalog.

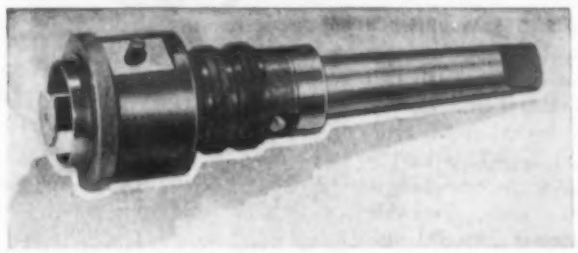
PORTABLE SAFETY DIVISION
PORTABLE PRODUCTS CORPORATION
420 BLVD. OF ALLIES, DEPT. 5L, PITTSBURGH, PA
▲ Mention Item NED-2048 when writing ▲

ONLY 58 MINUTES
to make a sturdy machine guard using a **C-B** Manual Metal Shrinker and a **C-B** Royal Clipper Metal Cutter. Work the metal together and shrink angles to radius wanted with Shrinker. Cut face plate and flanges with Cutter, then fasten together. There, in a matter of minutes rather than hours, you have a sturdy machine guard.

C-B TOOL CO., LANCASTER, PA.
▲ Mention Item NED-2049 when writing ▲

RECESSING TOOL

Precision recessing, grooving, back facing and similar operations can be performed readily with this recessing tool which is adaptable for use in drill presses, boring mills, turret lathes,



automatics, milling machines, etc. Tapered shank threaded into tool sleeve can be furnished to fit any machine. Cutter and pilot can be any required size or shape. Pilot assembly is ball bearing mounted to permit free rotation of either tool or work, depending upon application.

After pilot is entered into work, cutter is fed into work predetermined amount by means of rack and gear mechanism. Adjustable stop limits depth of cut or recess. One or more grooves of any required size and shape can be cut. Tool is designed for use on production or short runs. Four sizes are available for workpiece hole ranges of 5/8 to 1, 1 to 2, 2 to 3 and 3 to 4 inches. Special shanks, pilots and cutters can be supplied to meet user's requirements. Made by F. A. Maxwell Co., 390 Broadway, Bedford, O.

▲ Mention Item NED-2050 when writing ▲

TIME & MOTION RECORDER

Adaptable for work simplification study, time and motion study, production checking and similar operations, Marsto-Chron recorder operates from any 110-volt alternating current lighting circuit. Recording tape travels through instrument when toggle switch is actuated. As work cycle starts, both type bars are struck to print two short horizontal lines on tape. Elements of work cycle are recorded by striking right hand key and at conclusion of work cycle, both bars are struck again. Tape is torn off to furnish permanent and accurate time record of work cycle. All controls are located conveniently on top of case. Made by **Black & Webster, Inc.**, 126 Massachusetts Ave., Boston, Mass.

▲ Mention Item NED-2051 when writing ▲

DO YOU KNOW?

Consisting of plastic treated sheet bonded to cellulose fiber back to give body and toughness, Sana-Wall plastic wall covering has distinctive gloss which is easy to clean with soap and water or dry cleaner. Eight pastel shades, snow white and five 4-inch tile designs are available. Easily applied. this material is available in 60 and 110-foot rolls of 54-inch width Made by Sandura Co., 1700 Walnut St., Philadelphia, Pa.

▲ Mention Item NED-2052 when writing ▲

. . . HERE'S WHY WORKMEN LIKE WELLS METAL CUTTING BAND SAWS

You don't have to go through a lot of motions when you use a Wells Saw. Just place the material in position for cutting, give a turn to the hand wheel of the quick-acting vise, and you're ready to go. Hydraulic stabilizer on gravity feed and automatic shut-off take care of the rest. *No wonder the Wells is popular with users!*

From a management standpoint, it pays to provide workmen with these modern, efficient, versatile tools. Use them in stock rooms, machine shops, on maintenance jobs. Wells Saws do good work, cut close, remove minimum material. For production work, your Wells Saw can be equipped with the new Wells Wet Cutting System, as shown above. Ask for complete information.

Wells

Products by Wells are Practical
METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORPORATION
1313 HARDING ST., THREE RIVERS, MICHIGAN
▲ Mention Item NED-2053 when writing ▲

Remove **SCALE, PAINT, RUST Quickly . . . Easily**

USE AURAND CLEANING TOOLS

For any hard metal or stone surface—iron—steel—brick—concrete—etc.

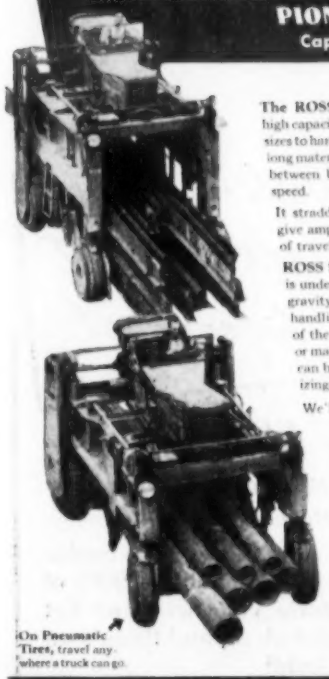
Electric or Pneumatic 2 sizes of each

It's easy to remove paint, scale, rust and other accumulations with AURAND Cleaning Tools. Powered, rotary, chipping does a thorough cleaning job in less time. No special skill required. Even depth surface is assured by an adjustable shoe control. Cutter heads are renewable.

For further information, address Dept. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO
▲ Mention Item NED-2054 when writing ▲

PNEUMATIC TIRED... STRADDLE CARRIERS
PIONEERED BY ROSS
Capacities: 1 to 12 Tons



The ROSS Straddle Carrier Truck, with high capacity tire equipment, is made in several sizes to handle all kinds of heavy, bulky or extra long materials or products . . . within buildings, between buildings or over the road at truck speed.

It straddles the load, lifts it just enough to give ample ground clearance for all conditions of travel.

ROSS Straddle Carriers are safer. The load is underslung, has an extremely low center of gravity; consequently the safest method of handling. Load is confined between the sides of the carrier, cannot roll off the sides. Loads or materials too long for other types of vehicles can be balanced centrally in the carrier, equalizing overhang.

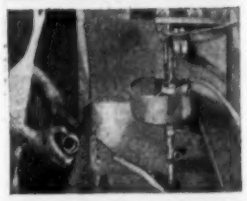
We'll be glad to confer with you on your material and product handling problems.

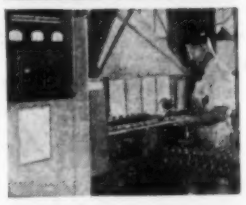
ROSS FORK LIFT Trucks will handle your HEAVY LOADS. Capacities up to 9 tons.

On Pneumatic Tires, travel anywhere a truck can go.

ROSS HEAVY LOAD STRADDLE-CARRIERS & LIFT TRUCKS
ROSS CARRIER COMPANY • Benton Harbor, Michigan
Detroit • Seattle • Portland • San Francisco • Vancouver, B.C. • New York City • Hoboken, N.J.
▲ Mention Item NED-2055 when writing ▲

Boost Output 3 Ways With Allis-Chalmers
INDUCTION HEATERS





1 **BRAZING** — An inexperienced operator here brazes 200 units per hour . . . a 1,000% production increase! Rejects are negligible, cadmium plating unaffected. Allis-Chalmers Induction Heaters are simple and safe to operate.

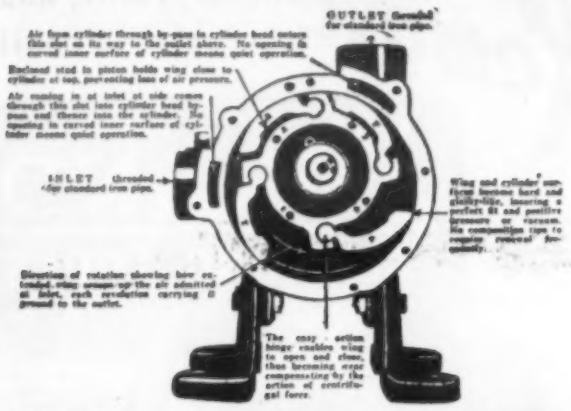
2 **HARDENING** — Thin-walled clutch collars must withstand severe stresses . . . yet wearing surfaces must be hard. Allis-Chalmers Induction Heaters harden from .010" and deeper. A practical production tool. Needs no experienced help.

3 **SOLDERING** — Even temper must be maintained in soldering unlike materials. Allis-Chalmers Induction Heaters have increased production here 200%. They can step up your output. Bulletin 14B6430 tells how. Get your copy today.

A 221

ALLIS CHALMERS MILWAUKEE 1 WISCONSIN
▲ Mention Item NED-2056 when writing ▲

LEIMAN BROS. ROTARY VACUUM PUMPS



NOISELESS • POWERFUL • EFFICIENT

TAKE UP THEIR OWN WEAR

STANDARD EQUIPMENT ON MOST PRINTING & BINDING MACHINES

A machine like Leiman Bros. Air Pump, which is used by the world's leading concerns in every line of work surely has some valid claim for your recognition in equipping your devices with air pumps. Your customers will have that much more confidence in your machines and it will cost you nothing extra for this great advantage.

Get the Free Information

LEIMAN BROS. 167 Christie St. Newark 5, N. J.

▲ Mention Item NED-2057 when writing ▲

PROTECTED BY

KOOLSHADE* SUN SCREEN

Your Office Can Be as Much as 15° Cooler . . . on the Hottest Days!

KoolShade installation can assure you cooler comfort this summer by blocking up to 90% of the sun's heat rays *outside your window!* Yet vision from inside is crystal clear, and there's an abundance of glareless light!

Where air conditioning systems are in use, KoolShade reduces operating costs. On new installations an excellent cooling job can be done with less expensive equipment when KoolShade is used on all sun-exposed windows. Order KoolShade *now* to assure installation before hot weather begins.

In effect, KoolShade is a miniature venetian blind with "slats" permanently set to block up to 90 percent of the sun's heat rays.

The sun "sees" KoolShade like this

NOTE THESE VALUABLE FEATURES

- *Permanently set at 17° angle for greatest shading efficiency.*
- *Prevents the fading of valuable drapes and furnishings.*
- *Easy and inexpensive to install—will not rot, rust or rattle.*
- *Fits neatly and smoothly into modern architectural design.*
- *Durable bronze KoolShade also effective as insect screen.*

Ingersoll **KOOLSHADE*** **SUN SCREEN**

*Trade Mark . . . Property of

INGERSOLL STEEL DIVISION
BORG-WARNER CORPORATION

Ingersoll Steel Division,
Borg-Warner Corp., Dept. G4
310 South Michigan Ave., Chicago 4, Ill.

Please send free sample and literature, also the name of my nearest KoolShade distributor.

Name .....

Company .....

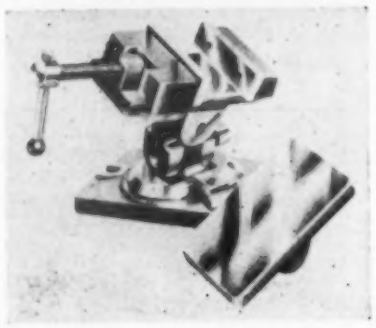
Address .....

City ..... State .....

PRODUCT OF BORG-WARNER

▲ Mention Item NED-2058 when writing ▲

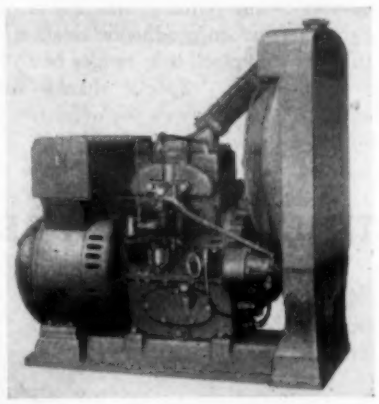
MULTIANGLE VISE & TABLE



Small jobs such as light milling, drilling, grinding, layout, pattern making, repair work, welding, experimental work and tool and die making are facilitated with this multiangle vise and work table combination. Vise has 3-inch wide interchangeable and reversible hardened steel vise jaws which are 1 inch high and capable of opening to 2 inches. Base provides for full 360-degree swivel and tilt of 45 degrees or more can be attained. Price is $39.50. Made by **Manufacturer's Engineering Service,** 436 Security Bank Bldg., Toledo 4, O.

▲ Mention Item NED-2059 when writing ▲

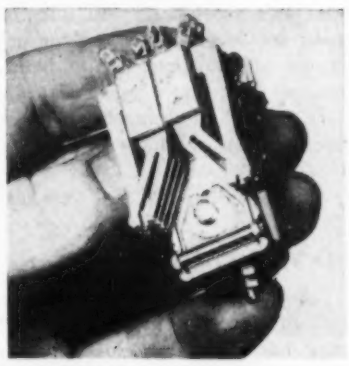
AUTOMATIC ELECTRIC PLANT



Improved by addition of fully automatic type controls, model 2500-BA gasoline engine driven generator produces 2000 to 2500 watts, 115-volt, single phase, 60-cycle alternating current. Controls cause power plant to operate whenever load is placed on line and operation is continuous until load is removed. Controls are conveniently located in metal cabinet. They require no adjustments and no complicated wiring connections. Operation is quiet and relays are quick-make, quick-break type. Gasoline engine is two-cylinder, four-cycle water cooled type. Made by **Universal Motor Co.,** 331 Universal Dr., Oshkosh, Wis.

▲ Mention Item NED-2060 when writing ▲

DIRECT CURRENT RELAY



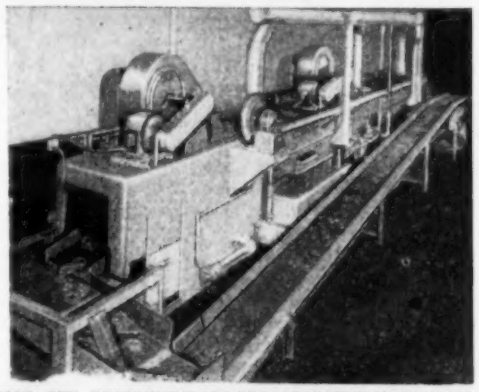
Designed for extremely fast operation, this type J direct current relay has overall length of 2-1/4 inches and weighs 2-1/2 ounces. Independent dome disk type twin contacts are made of palladium material. They have current carrying capacity of 4 amperes, 150 watts.

Relay is available in both single and double arm types. Maximum of ten springs can be placed on a single arm relay and twenty on double arm relay. Heelpiece is designed to secure extreme rigidity. This feature allows relay to take and hold unusually fine adjustments. Made by **C. P. Clare Co.,** 4719 W. Sunnyside Ave., Chicago 30, Ill.

▲ Mention Item NED-2061 when writing ▲

Ransohoff **EQUIPMENT** *for the surface treatment of metals*

LET RANSOHOFF MACHINES REDUCE YOUR CLEANING COSTS THIS MODERN WAY



WASH...DRY...RUST-INHIBIT AND DRY AUTOMOTIVE CLUTCH PARTS

Prior To Putting Into Stockroom

IT'S a belt type conveyor machine and work is loaded onto a fine mesh belt with special spray arranged so that work is not blown about. At the discharge end work passes onto a vibrating feeding pan which feeds it on a return conveyor. The discharge end is built with suitable counterweights so it can be raised or lowered to release work into tote pans stacked at convenient heights.

ONE MAN OPERATES BOTH LOADING AND UNLOADING.

N. RANSOHOFF, Inc. 1319 Township Ave. CINCINNATI 16, OHIO

▲ Mention Item NED-2062 when writing ▲

MILL BOXES

(Maybe you call them "TOTEBOXES")

SPEED-UP PRODUCTION WITH "Bal-Bilt" BOXES

Made to RESIST HEAVY WEAR!

for ASSEMBLING CARRYING SORTING INSPECTING *and many other special purposes*

BAL makes them in all sizes,—short, tall, wide or narrow, with or without compartments or dividers. *ALL* of them hard, vulcanized fibre, reinforced at *all* wear-points, with hardwood runners, with or without handles.

Use them to speed-up production; to promote orderly flow of parts; prevent loss; *measure* a day's production; simplify handling. And be sure you get BAL-BILT guaranteed quality.

Write, stating size, quantity and purpose required

"SINCE 1898"

"BAL" BUILT WITH A CONSCIENCE

WILLIAM BAL CORPORATION

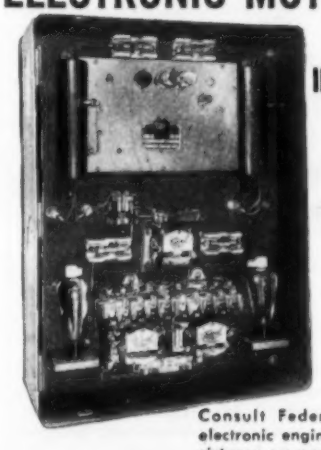
16 Johnson Street, Newark 5, N. J.

New York Office—239 West 39th St., New York 18, New York

▲ Mention Item NED-2063 when writing ▲

Federal NOARK

ELECTRONIC MOTOR CONTROL



OFFERS THESE 9 IMPORTANT ADVANTAGES:

Operates D.C. motor from A.C. power source • Flat speed-torque characteristic • Automatic current limit • Smooth, stepless acceleration • Overload protection • Reversing • Dynamic braking • Preset speed control • Special pilot control features

Consult Federal NOARK electronic engineers for assistance on *your* problems.

Federal NOARK INDUSTRIAL CONTROLS

Federal Electric Products Company

***Executive Offices:* 50 Paris St., Newark 5, N. J. • *Plants:* Hartford, Conn. • Newark, N. J. • St. Louis, Mo. • Long Island City, N. Y.**

▲ Mention Item NED-2064 when writing ▲

Penflex "Flexineering" solves air transmission problem on new Battery-to-Brooklyn tunnel project.

Yes—Penflex Tubing is being used for transmitting air from a floating air compressor unit to a "man-made" island in the East River. There's plenty of motion from the river . . . plenty of pressure . . . yet entire unit is safe and working steadily under all conditions.

Penflex "Flexineering" (The science of engineering each type of flexible metallic tubing to the particular problem) can help you solve many problems of maintenance, production, and product design.

Penflex offers a complete line of 4-wall interlocked flexible metallic hose from 1/8" dia. to 30" dia., seamless welded flexible tubing from 5/32" dia. to 2" dia., automatic barrel fillers, rivet passers, and couplings. For further information on the above tunnel case history, write today to Dept. 6.

PENFLEX SALES COMPANY

Division of PENNSYLVANIA FLEXIBLE METALLIC TUBING COMPANY

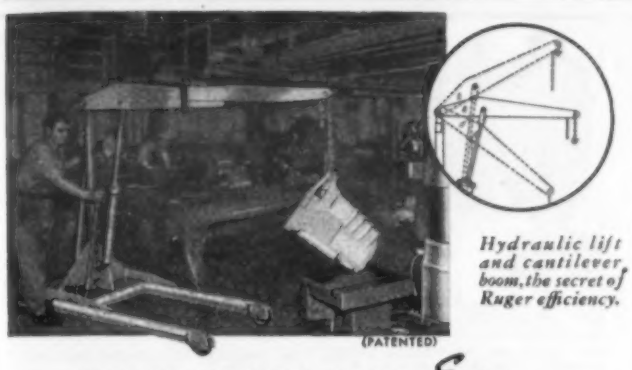
72nd Street and Powers Lane Philadelphia 42, Pa.

Branch Sales Offices—
NEW YORK BOSTON CHICAGO CLEVELAND HOUSTON SYRACUSE

Penflex... HEART OF INDUSTRY'S LIFE LINES

Copyright 1947—Pen[illegible]

▲ Mention Item NED-2065 when writing ▲



Hydraulic lift and cantilever boom, the secret of Ruger efficiency.

MAKES TOUGH JOBS *Easy*...

the low-cost Ruger *Hydraulic* Floor Crane

Loading heavy castings into lathe, drill or milling machine is only one of many jobs you can do better with a Ruger. *Hydraulic* lift gives positive control . . . you can inch load up or down, spot it to the thousandth of an inch.

The Ruger handles anything that can be picked up with a crane hook . . . carries it wherever there's a floor to travel on . . . loads, stacks or tiers from floor level up to 9 ft. high (even higher with extension boom attachment). Works in narrow aisles and around machines, posts and other obstacles, takes headroom from 4′ 9″ to 7′ 11″ depending on model.

Three sizes, 1-ton, 2-ton and 3-ton, described in new bulletin containing photos and specifications. Write to our nearest office for your free copy, *today*.

RUGER *Equipment Co., Inc.*

408 Leader Bldg. Cleveland 14, Ohio — P. O. Box 3821 Portland 8, Ore.

▲ Mention Item NED-2066 when writing ▲

Motorized HOPPER UNITS

FASTEST FEED • STURDY • WIDELY ADAPTABLE

For use with Presses, Centerless Grinders, Thread Rolling and Slotting Machines, or any special machine.

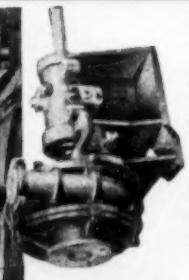
SUCCESSFULLY FEED:
SCREWS, SCREW BLANKS, RIVETS, PINS, DISCS, NUTS, BEARING ROLLERS, STEEL BALLS, WASHERS AND SPECIAL PARTS ADAPTABLE TO HOPPER

Send Samples for Detailed Information

DETROIT POWER SCREWDRIVER CO.

2819 W. FORT STREET DETROIT 16, MICHIGAN

▲ Mention Item NED-2067 when writing ▲



New Hydroseal Slurry Pump uses only 15% of the low amount of sealing water formerly required.

Hydroseal Pumping Systems—"Engineered" for Long Distances

Hydroseal Pumps are high in efficiency and low in power and maintenance, and a carefully engineered pumping system is most economical both in installation and annual operating costs. But, pumping abrasive materials over long distances and difficult terrain requires much more than just selling pumps. So, to insure an adequate installation we will, together with you, engineer the entire system to match the reliability and economy of Hydroseal Pumps. If you have an unusual or difficult abrasives material handling job, call on the Hydroseal Engineer. He can do more than sell pumps, if you need more.

The ALLEN-SHERMAN-HOFF CO., 1429 LOCUST STREET, PHILA. 2, PA.

▲ Mention Item NED-2068 when writing ▲

STEAM JET FUEL PULVERIZER

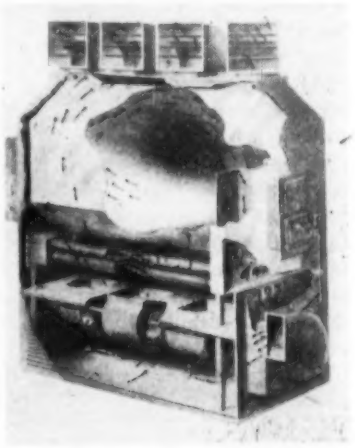
Capable of feeding up to 10,000 pounds of fuel per hour, steam jet fuel pulverizer unit supplies powdered coal to boilers in fluid stream. Equipment has no moving parts except screw drive that feeds fuel into unit. Both loop and circular type models use superheated steam to accomplish pulverization. Powdered coal is then entrained by steam and delivered to burners in fluid stream in manner similar to handling of gas fuel. Stream-like movement of pulverized fuel provides high safety factor and permits precise control.

Complete combustion is achieved which reduces fly ash to negligible quantity. No auxiliary equipment is required for removal of fly ash. Pulverizer operates on either wet or dry coal. Small in size, units produce no vibration and need not be placed on special foundations or bolted to floor.

Steam can be separated from coal at burners or in successive stages before it reaches burners. It can be sent through burners to boiler if desired. Photoelectric eye trained on flame at boiler burners insures automatic stoppage of pulverizer in event of loss of ignition. Made by **Blaw Knox Co.**, Dept. NED, Farmers' Bank Bldg., Pittsburgh 30, Pa.

▲ Mention Item NED-2069 when writing ▲

INDUSTRIAL HEATING UNIT

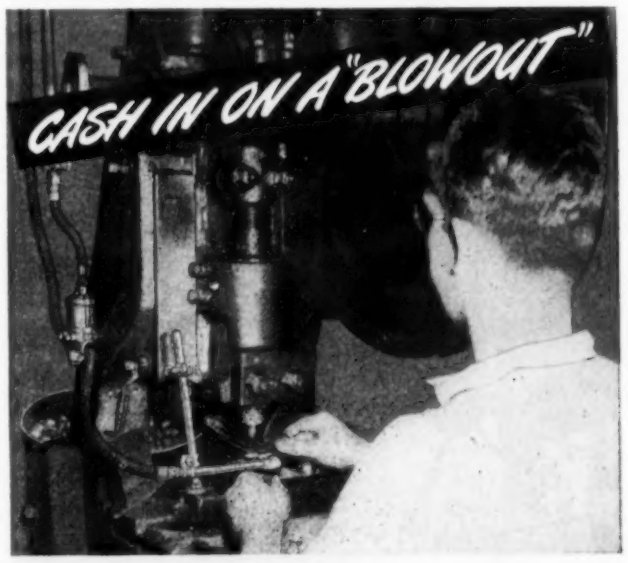


Featuring stainless steel combustion chamber, this Dravo Counterflo direct fired heating unit (*Item NED-3891 July '44*) is adaptable for wide range of heating applications in industrial plants. Use of heat resisting steel prolongs normal life of heater and provides for high efficiency.

Eight different sizes of heating unit are available and outputs range from 400,000 to 2,000,000 British thermal units per hour. Warm air is discharged horizontally over floor area above workers' heads at flow rate of approximately 2000 cubic feet per minute. Flow rate of returning air is so low that there is no appreciable draft even a few feet from heating unit.

Incorporation of stainless steel results in lightweight heating unit which can be suspended from building roof trusses, either vertically or horizontally, depending on head room. Installation requires only fuel line, power line and vent stack. Units will utilize either gas or oil as fuel. Made by **Dravo Corp.**, Dravo Bldg., 300 Penn Ave., Pittsburgh 22, Pa.

▲ Mention Item NED-2070 when writing ▲



SPEED UP PRODUCTION
WITH SCHRADER AIR EJECTION SETS

It's easy to increase the productivity of your presses and make them perform new duties by installing Schrader Air Ejection Sets. Finished work can be blown into a receptacle, as the ram leaves the die. Schrader Ready Made Air Ejection Sets fit most machines without modification. For complete information write to Dept. DA-8

Schrader PRODUCTS CONTROL THE AIR

A. SCHRADER'S SON, BROOKLYN 17, NEW YORK
Division of Scovill Manufacturing Company, Inc.

▲ Mention Item NED-2071 when writing ▲

The BEST Way to WELD Pipe or Tube Joints . . *is by using* . .

WEDGE *Split* CHILL RINGS

The use of WEDGE Split Chill Rings puts EXTRA strength into pipe and tube joints. Makes the joints the strongest part of the line. You get 100% penetration of every joint. In case of shock, strain or vibration, the pipe will fail before the reinforced joints. If you have a welding problem involving pipe, tubing or parts, it will pay you to investigate this NEW and BETTER way of welding.

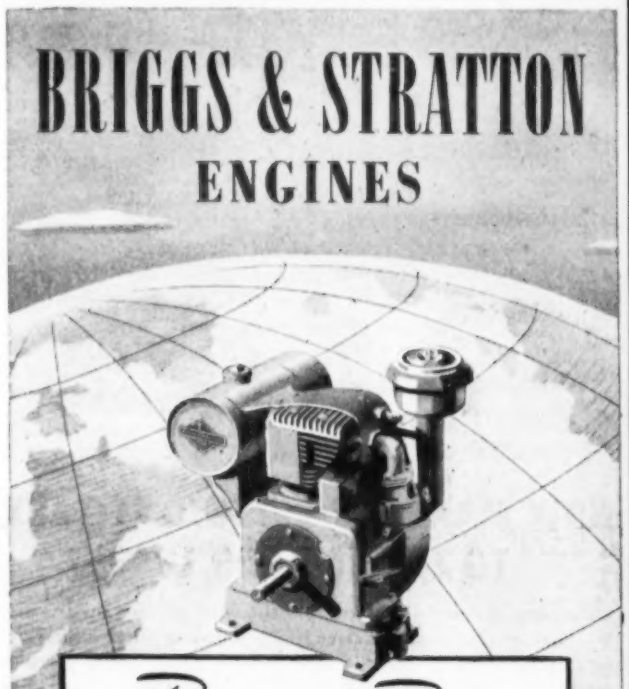
Write for further information.

WEDGE PROTECTORS, INC.
3973 Jennings Road Cleveland 9, Ohio

Use WEDGE Chill Rings-Thread Protectors

▲ Mention Item NED-2972 when writing ▲

BRIGGS & STRATTON ENGINES



Preferred Power
the world over

FOR INDUSTRIAL, CONSTRUCTION, RAILROAD AND FARM EQUIPMENT

Year after year, during the 27 years of *continuous production* of air-cooled engines, Briggs & Stratton has constantly been *first* in developing and adopting the most advanced *worth while* engineering and production improvements.

Through constant factory and on-the-job field study, by highly skilled engineers, Briggs & Stratton has always kept out in front — years ahead — in meeting the power requirements of equipment and appliance builders. This experience is assurance of *all that is best in gasoline power performance*, as proven by the record established by more than 2¾ million Briggs & Stratton single cylinder, 4-cycle *air-cooled* gasoline engines — the record which has established them as "preferred power" by users, dealers and manufacturers the world over.

BRIGGS & STRATTON CORPORATION
Milwaukee 1, Wisconsin

Air-Cooled Power

4 CYCLE BRIGGS & STRATTON GASOLINE ENGINES

▲ Mention Item NED-2073 when writing ▲

WHEN welders can swing tons of weldment into any position for the next downhand pass quickly and safely, with a touch on the push button control, they are able to work better, faster and more economically, no matter what the job. Interruptions in any welding operation are costly—when welders or their helpers must prop up, flop, turn over, crawl under, over and around a weldment, they are adding costs to the job. Because more and more welding is being done in today's production, it is important that your welding costs and quality be examined in the light of economies and improvements made possible by C-F Positioners.

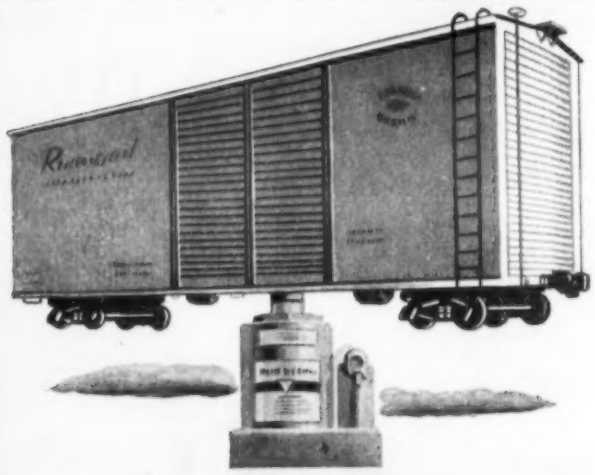
Not only do C-F Positioners give welders more time for welding by permitting them to swing weldments into the correct position for a downhand pass, they make all welding better and more economical by making possible the use of heavier electrodes, eliminate "overwelding" and waste of power and materials. Write for Bulletin WP 22.

CULLEN - FRIESTEDT CO.

1394 S. Kilbourn Ave. Chicago 23, Illinois

CULLEN-FRIESTEDT CO., CHICAGO 23, ILL. C-F positioned welds mean better, more economical welds

▲ Mention Item NED-2074 when writing ▲



HOW MANY MEN WOULD IT TAKE TO LIFT 100,000 LBS?

Of course it would depend on the size of the men—and whether it was before or after lunch. But our point is that no matter how many men it would take, ONE Hein-Werner Hydraulic Jack could lift it easier, faster and safer—anytime!

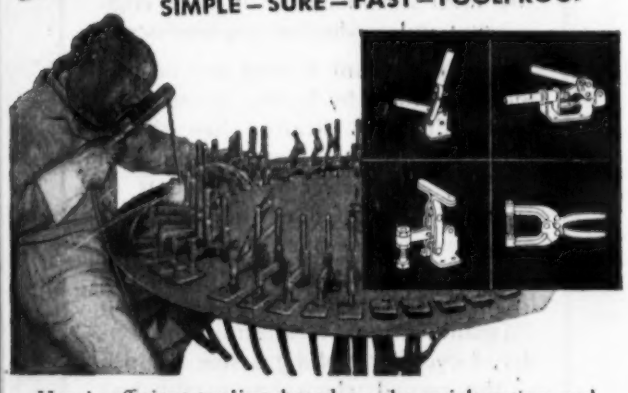
And the same goes for a thousand and one other applications in your plant—pushing, bending, pressing, etc. Made in models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity. See your nearest industrial supply distributor or write us for details.

HEIN-WERNER CORPORATION
WAUKESHA, WISCONSIN

▲ Mention Item NED-2075 when writing ▲

SMART TOOLING!

SIMPLE—SURE—FAST—FOOLPROOF



Here's efficient tooling based on the quick action and positive holding power of De-Sta-Co Toggle Clamps. This simple turntable with its 48 No. 210-S clamps enables one welder to keep abreast of two helpers. One places curved shank in socket and unloads finished assemblies. The other locates pierced hole in plate over shank and locks securely with toggle clamp. The expert welder works without interruption.

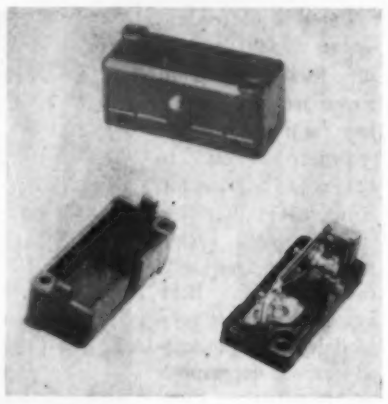
Smart tooling like this is the backbone of modern mass-production technique. You'll see De-Sta-Co Toggle Clamps playing vital parts *wherever* the principles of sound tool engineering are observed.

Welding production is *only one* of the many fields for quick acting clamps. For holding parts in milling, drilling, routing, riveting, cementing—for fast, uniform, *foolproof* action—progressive tooling demands De-Sta-Co adaptability and quality. There's a De-Sta-Co clamp for every job, designed and built to stand up under the wear and tear of volume production. Send for copy of Catalog No. 47.

DETROIT STAMPING COMPANY
360 Midland Ave. Detroit 3, Mich.

▲ Mention Item NED-2076 when writing ▲

PRECISION LIMIT SWITCH



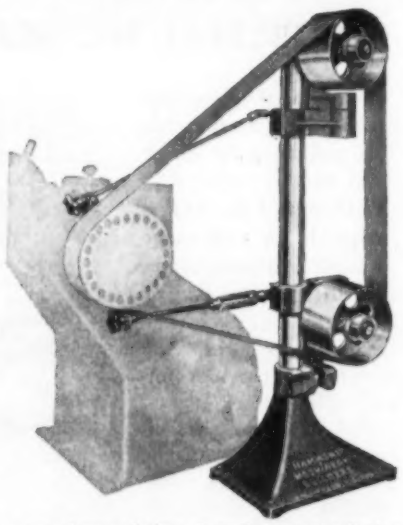
Designed primarily for control circuit and pilot duty, this Amptrol magnetic snap-action type precision limit switch features low actuating pressure and short travel differential with high load capacity. Switch is actuated by 1-3/4-ounce pressure and travel differential of 0.003-inch. When actuating plunger is depressed, it loads leaf spring until spring load overcomes pull of permanent magnet and switch snaps open.

Switch is suited for direct operation by bimetal elements, bellows or other such actuators providing slight movement with small amount of force. In certain applications, interruption capacity of switch is adequate to permit safe direct control of motors as large as 1/3-horsepower. At present, it is available only in normally closed, single pole, single throw model. Entire switch assembly is enclosed in thermosetting plastic case. Weight is 1 ounce. Made by Friez Instrument Div., Bendix Aviation Corp., Baltimore 4, Md.

▲ Mention Item NED-2077 when writing ▲

BACKSTAND IDLER

Existing grinding and polishing equipment can be converted to high production abrasive belt machines for wide range of finishing operations by means of this model No. 4 backstand idler unit. It is equipped with two 12-inch diameter wheels having 7-inch faces for abrasive belts up to 6 inches wide. Upper idler can be lowered on column when abrasive belts shorter than 14 feet are used. Lower idler is used for tensioning belt. It is mounted on swinging arm which is controlled by spring tension.



Belt guards with double hinged covers are enclosed for exhaust system connection and have sliding door in receptacle for removing accumulated materials. Idlers can be supplied for either right or left hand operation. Made by Hammond Machinery Builders Inc., 1623 Douglas Ave., Kalamazoo, 54 Mich.

▲ Mention Item NED-2078 when writing ▲

DO YOU KNOW?

Holding sufficient carbon dioxide under pressure to fill three average size automobile tires, Power-Pak is usable also for extinguishing small oil, gas and electrical fires. This compact dual-purpose device can be refilled easily. Made by Power-Pak Products, Inc., 43 Pearl St., Buffalo 2, N. Y.

▲ Mention Item NED-2079 when writing ▲

6 or 8 SPINDLES!

MULTI-DRILL ADJUSTABLE

Pats. Pending

DRILL UP TO 6 or 8 HOLES AT ONE STROKE IN *ANY* PATTERN WITH MULTI-DRILL

Fits ANY Drill Press

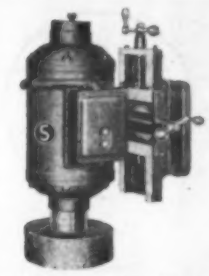
The 8-spindle unit in the MULTI-DRILL line brings your single spindle tools even greater production capacity and wider operating range. You can drill up to 8 holes at one stroke in *any* hole pattern on or within a 9" circle . . . ½" center distances . . . drill sizes 1-32" to 3-8". (Special adaptations available.) All the features which make MULTI-DRILLS preferred tools are built in . . . fast, easy positioning of locating arms . . . heavy duty, long-life block-type universal joints . . . "Oilite" lifetime bearings . . . precision collet spindle assemblies and rugged construction throughout assure long trouble-free service. The 6-Spindle MULTI-DRILL handles any hole pattern on or within 5" circles—½" min. centers.

Write for Catalog Sheets and Complete Details

COMMANDER MFG. CO.
4220 W. Kinzie Street • Chicago 24, Ill.
Telephone SACramento 4545

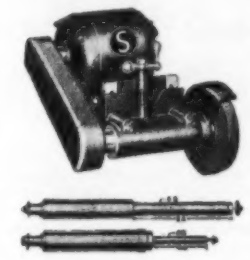
ADJUSTABLE TO ANY DESIGN

▲ Mention Item NED-2080 when writing ▲



Grinder with Vertical and Horizontal feeds Available with or without feeds as preferred. Integral mounting pad for rigidity.

"YES SIR—STANDARD VERTICAL SPINDLE GRINDERS GIVE US 'DOUBLE PURPOSE' MACHINES"



YES SIR! You can now make your machine a "double purpose" machine, the "Standard Way". STANDARD VERTICAL SPINDLE GRINDERS and STANDARD INTERNAL-EXTERNAL GRINDERS can be easily mounted on your Planers, Boring Mills, Shapers, Milling Machines, etc., giving you added profits!

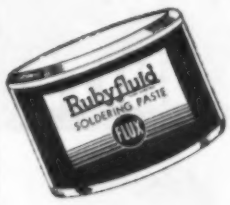
Vertical Spindle Grinders range from ½ H.P. to 15 H.P. for straight or cup wheels up to 16" diameter. Also for cylinder wheels, or segmental wheel chucks. Speeds: 1200, 1800, and 3600 R.P.M. Internal-External Grinders have interchangeable quill for internal grinding up to 24" deep.

Write for YOUR copy of Catalog 43, today.

The STANDARD ELECTRICAL TOOL Co.
CINCINNATI • 4 • OHIO
2488 RIVER ROAD

▲ Mention Item NED-2081 when writing ▲

The Proof's in the Use



RUBYFLUID FLUX

IS BETTER FOR ALL SOLDERING

RUBY'S BIG $1 SAMPLE—

1 pt. of liquid and 1/2 of paste flux is more than enough to show you why we say Rubyfluid is a better flux.

Rubyfluid—
Wets out freely . . .
Makes stronger neater joints
Has no harmful fumes . . .
Acts quickly and saves time

Ruby also will send you free its new booklet of simplified instructions on "How To Solder."

WRITE FOR THE SAMPLE AND BOOKLET TODAY

RUBY CHEMICAL CO.
72 McDowell St., Columbus 8, O.

Rubyfluid

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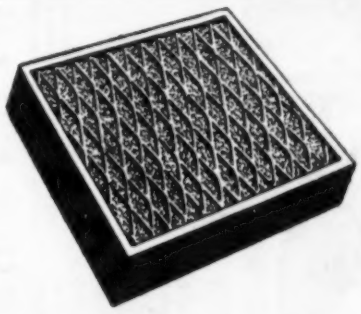


Easy way to clean Air Filters

YOU can remove hampering deposits entrapped from the air, easily and effectively, by using specialized Oakite filter cleaning materials. Fast-acting Oakite cleaning compounds remove soot, dirt, dust, pollen and other foreign matter . . . completely restore units to full filtering capacity . . . reduce out-of-service time.

Send for full details. Ask us about dependable Oakite cleaning materials and methods for expediting other essential air conditioning maintenance jobs. Write Oakite Products, Inc., 32G Thames St., New York 6, N. Y.

OAKITE
REG. U. S. PAT. OFF.
SPECIALIZED CLEANING MATERIALS • METHODS • SERVICE
Technical Representatives in Principal Cities of U. S. & Canada

▲ Mention Item NED-2083 when writing ▲

Style 600

STEEL STACKING BOXES
FOR ALL PRODUCTION NEEDS

IMMEDIATE SHIPMENT

Ideal all-purpose shop box. Sturdy all-welded construction. Heavy skids act as positive stacking lock and reinforce box at points of maximum wear. Other sizes and styles available.

No. 601 10"x16"x6" 18 ga. Plain steel $1.28 ea.
Green Enamel $1.48

No. 602 12"x18"x8" 16 ga. Plain steel $1.92 ea.
Green Enamel $2.17

No. 603 12"x18"x6" 16 ga. Plain steel $1.79 ea.
Green Enamel $2.02

Style 300

No. 301 **STACKING BOX**
Drop handles each end. Runners save wear—act as stacking lock. Size: 6" x 9" x 3½". 20 ga. plain steel . . . . each 76¢
Green Enamel 88¢

F.O.B. FACTORY • ANY QUANTITY • PHONE-WIRE-WRITE

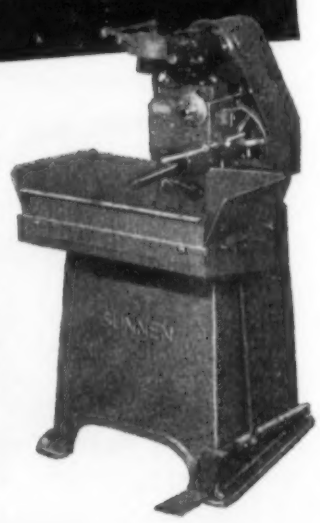
BAY INC. 3009 No. 16th St. PHILADELPHIA 32, PA.
Telephone: BAldwin 9-1805

▲ Mention Item NED-2084 when writing ▲

With a Small Investment—

the SUNNEN PRECISION HONING MACHINE

Will Accurately Finish All Internal Diameters from .125" to 2.625"



The wide range of sizes which the Sunnen Precision Honing Machine will handle makes it adaptable to thousands of jobs in production plants, tool and die shops maintenance shops and salvage departments. Honing heads and stones are available to hone any kind of metal, plastic or ceramic material except lead and babbitt.

Accuracy is guaranteed to be within .0001"—and on such materials as hardened steel it has been held to .000025" on production jobs. Surface finishes can be produced to meet any commercial requirement.

The Sunnen Precision Honing Machine does not require skilled help. No jigs or fixtures are needed—it can be put to work immediately. Low in cost—economical to operate.

A Sunnen engineer will be glad to show you how you can apply Sunnen honing to your jobs, in your plant. Write for complete details. Ask for bulletin XSP5000.

Typical Examples

Universal bearing honed to 10 micro inch finish gives longer service.

Line reamer bushings, diameter 2.375", accuracy held to .0001".

Miniature aircraft cylinder—smooth, accurate honing provides better compression and longer life.

Aircraft Valve Tappet Roller. Honed after grinding to give 100% bearing surface.

Bronze Valve. The Sunnen method of honing is used to secure a high finish and accuracy.

Hydraulic Two-Way Control Valve. Hole is honed to eliminate leakage.

SUNNEN

SUNNEN PRODUCTS COMPANY
7931 Manchester Avenue, St. Louis 17, Missouri
Canadian Factory: Chatham, Ontario

▲ Mention Item NED-2085 when writing ▲

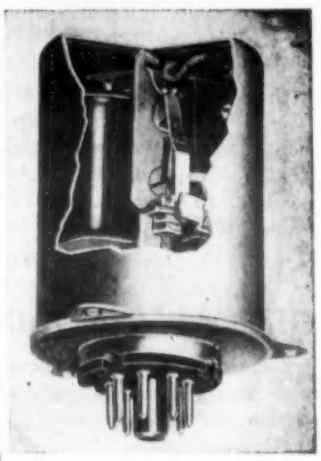
POWDER METALLIZING UNIT

Developed for use in conjunction with Colmonoy Sprayweld process, Spraywelder powder metallizing unit can be used with all powdered compositions and combines advantages of welding and metallizing procedure. Unit acts as powder metallizing gun to apply uniform overlay of hardfacing alloy on work, after which it is employed as conventional welding torch to fuse sprayed overlay to base metal. Same results are obtained from this process as when alloy is employed in rod form and welded in place by acetylene welding.

Spray gun is simple in design. There are only two control valves and both are mounted on gun itself. Powder flow can be started and stopped at will by manipulation of trigger. Unit is lightweight and can be hand operated, mounted in vise or, with an attachment, held in tool post of lathe. It can be operated in all positions. Complete outfit consists of gun, necessary hoses and connections, all mounted on convenient panel. Made by **Wall Colmonoy Corp.**, 19345 John R, Detroit 3, Mich.

▲ Mention Item NED-2086 when writing ▲

PLUG-IN SENSITIVE RELAY



Suitable for current sensitive applications from 1.3 milliamperes to 0.54-ampere and nominal voltages from 0.1 to 48 volts direct current, Bulletin 108 relays are of plug-in type. Features include highly accurate sensitivity, low power consumption, compactness and elimination of exposed wires. Units are quickly replaceable and are protected against adverse atmospheric conditions.

Relay is mounted on standard octal plug base and enclosed in cylindrical metal can hermetically sealed against moisture, gases, dust and other detrimental conditions. It is provided with normally open single pole contact having ratings of 2 amperes, 24 volts alternating or direct current, 0.75-ampere, 125 volts-direct current and 2 amperes, 125 volts alternating current. Average coil consumption is 0.056-watt. Enclosing can measures 2 inches in diameter and 2-15/16 inches high. Made by **Ward Leonard Electric Co.**, 51 South St., Mount Vernon, N. Y.

▲ Mention Item NED-2087 when writing ▲

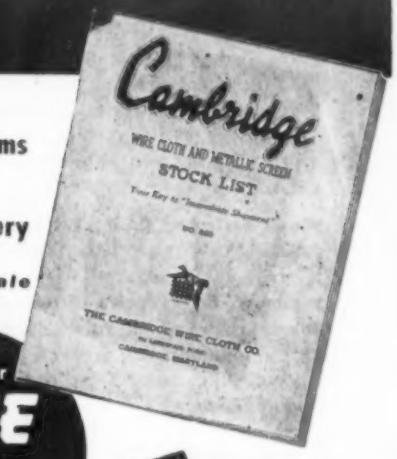
DO YOU KNOW?

Employing Radarange electronic cooking principle, Oven-Chef is compact food cooking unit which produces no grease, smoke or odors. Meat, vegetables, pastry and deserts are produced in fraction of time required by normal cooking or baking methods. Made by Raytheon Mfg. Co., 104 Willow St., Waltham 54, Mass.

▲ Mention Item NED-2088 when writing ▲

▲ Mention Item NED-2089 when writing ▲

Users of WIRE CLOTH and METALLIC SCREEN



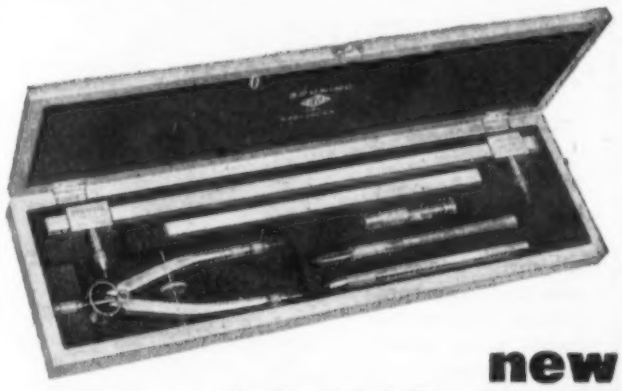
Vitally Needed Items Available for Immediate Delivery

Subject to prior sale

Write for **FREE** copy of Cambridge Stock List No. 600

THE CAMBRIDGE WIRE CLOTH CO.
Cambridge 13, Maryland

▲ Mention Item NED-2090 when writing ▲



new
Industrial Drafting Set Provides Exclusive Features!

Exclusive patented features that help make the draftsman's work easier—neater—more accurate—are contained in this new Bruning Industrial Drafting Set. Set contains 4 most essential drafting instruments. New type ruling pen featuring a patented calibrated adjusting collet which regulates the opening of nibs—making it easy to re-set nibs to maintain lines of uniform width. Beam Compass has rapid, simple and positive adjustment which cannot slip or work loose—permits drawing of circles either in pencil or ink up to 24 inches in diameter. Six-Inch Giant Bow Compass for drawing circles from 1/16 to 8 inches in diameter—has patented lead propelling device which advances lead without soiling fingers and tracings. Draftsman's refillable pencil can be converted to double point by removing screw cap and replacing it with extra tip and chuck, furnished. Pencil takes leads from .070 to .081 or degrees HB to 9H in standard drafting leads. Plastic tube containing extra leads, needle points, pen part and pencil tip and chuck completes the set. Entire set furnished in natural finish mahogany case. Instruments are of high quality satin-finish aluminum and chrome-plated steel. For full information, write Charles Bruning Company, Inc., 4730-38 Montrose Avenue, Chicago 41, Illinois.

List Price
$20.60 **BRUNING** Since 1897

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CUT COPYING COSTS 80%

. . . with this amazing new kind of reproduction unit in your office

FREE BOOK! MAIL COUPON NOW

(1) APECO saves typing, copying, drafting time—makes permanent copies *right from an original, without a stencil*, at less cost than a phone call! Single copy, 3 min.—extra copies, 1-a-min. (2) Prevents costly copying errors. Because it operates *photographically* (it is not a stencil duplicator) it cannot vary from your original. (3) Saves sending out for copies. APECO copies everything—including photos, which other equipment cannot copy. (4) Any boy or girl can operate APECO, "America's most widely used photocopy equipment." No darkroom or technical knowledge needed.

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Any paint stripped from any surface

One-tenth the time . . . one-tenth the effort

Paint Flushed From Metal With Cold Water Rinse
Even toughest coatings are quickly flushed off in cold water after applying remarkable TURCO PAINT-GON. Simply spray, brush or scrub on. Paint rinses off freely after 5 to 20 minutes. Non-inflammable, non-corrosive.

Wood Stripped Clean Without Raising Grain
Amazing new TURCO PAINT-ZIP will not raise grain . . . strips *all* paint layers in *one* application. After wiping off with TURCO L-800, all gum, film and residue are removed and surface is ready for re-painting. Non-inflammable, gives off no dangerous fumes.

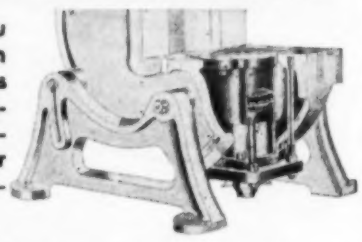
Phone your nearest Turco Field Engineer or write Dept. NED-4

TURCO WOOD & METAL PAINT STRIPPERS

TURCO PRODUCTS, INC. Main Office & Factory: 6135 S. Central Ave., Los Angeles 1
Offices & Factories: 125 W. 46th St., Chicago 9 - 1906 Henderson St., Houston 1, Texas
New York Office: 21 West Street, New York 6 - Offices & Warehouses in All Principal Cities
Canada: D. W. Deane & Company Limited, 751 Victoria Square, Montreal 1

▲ Mention Item NED-2093 when writing ▲

+ INCREASED PRODUCTION
— REDUCED SETUP TIME
= DAYTON ROGERS DIE CUSHIONS



No matter how you figure it Dayton Rogers Die Cushions will assure better results and lower production costs on your punch press operations because:

1. They are readily adapted to either short run quantity requirements or for large quantity production.
2. They automatically convert a press from single action to double action for deep drawing work.
3. Correct pressure pad control on forming dies obtained quickly by simply adjusting the pressure regulator.
4. They afford positive stripping action on all compound, blanking and piercing dies.

Write for illustrated engineering catalog # 100-13

DAYTON ROGERS *Manufacturing Company*
MINNEAPOLIS 7, MINN.

▲ Mention Item NED-2094 when writing ▲

Learn more about
LYON-Raymond's *New* HYDRAULIC
Pallet Lift Truck . . .

Streamlined! Lightweight!

Check All These Unusual Features . . .

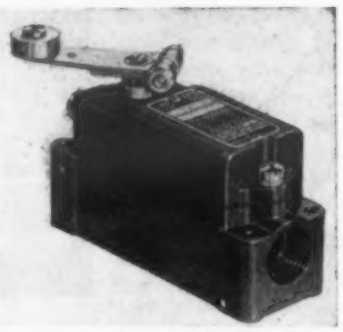
FRAME High strength alloy sheet steel formed into strong box sections.
AXLES Heat-treated alloy steel.
WHEELS (and other non-structural parts) made from aluminum alloy.
BEARINGS Anti-friction bearings used at all important points in lifting mechanism.
WORKING PARTS Totally enclosed for better protection.
WEIGHT Reduced to a minimum by new design and modern lightweight construction.

This advanced construction fits the Lyon-Raymond Hydraulic Pallet Lift Truck to do jobs with speed and ease never before attained by hand pallet trucks. Write today for complete information that may save you time and money!

LYON-Raymond Corporation
579 Madison St., Greene, N. Y.

▲ Mention Item NED-2095 when writing ▲

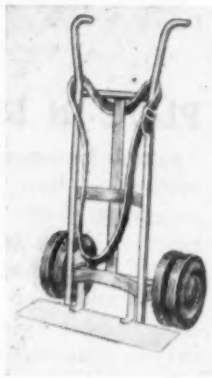
MACHINE TOOL LIMIT SWITCH



Available in oilproof enclosures for machine tool applications, this precision snap switch can be supplied for surface or flush mounting and for either roller arm or push-rod operation. By rotating cover and switch assembly, ⅜-inch conduit entrance can be at either end. Roller arm types require only 5 degrees travel and permit as much as 25 degrees overtravel in either direction. Arms are adjustable around complete circle. Return springs are reversible for either clockwise or counterclockwise motion of lever, or are removable for maintained contact action. Operating arms in lengths from ⅞ to 3 inches are available with standard ⅝-inch rollers. Special rollers can be supplied. Made by **Square D Co.**, Industrial Controller Div., 4041 N. Richards St., Milwaukee 12, Wis.

▲ Mention Item NED-2096 when writing ▲

INDUSTRIAL HAND TRUCK



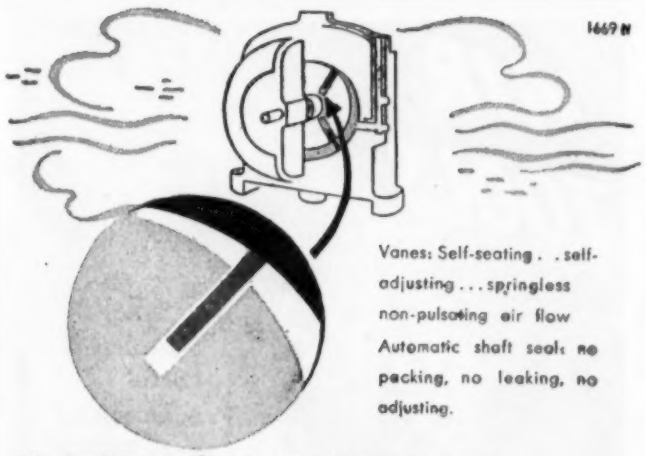
Dual-mounted solid rubber wheels are feature of this model No. 88R industrial hand truck. Unit has load capacity of 1000 pounds and is constructed of strong light tubular steel. It can be obtained with or without strap. Nosepiece of truck measures 7 by 14 inches and is replaceable by smaller nosepiece if more practical. **Overall weight is 46 pounds.** The 8 x 2-inch wheels are equipped with Oilite bearings which are prelubricated. Price of truck is $31.95 fob factory. Made by **Handees Co.**, Dept. NE, Bloomington, Ill.

▲ Mention Item NED-2097 when writing ▲

ELECTRIC SOLDERING TOOL

Redesigned to attain operating temperature 20 per cent more rapidly than previous model, Thermo-Grip soldering tool operates on resistance heating principle. Complete unit includes transformer or power unit and soldering tool that operates in manner similar to pair of pliers. Holding work with tool completes transformer secondary circuit and causes work to heat up instantly. No preheating is necessary. Heat is produced between electrodes of tool only, eliminating danger of melting nearby joints or burning other parts. Lightweight plastic handles can be locked in any position for special applications. Thumb switch is provided for close heat control. Unit is rated at 1000 watts. Made by **Ideal Industries, Inc.**, 1032 Park Ave., Sycamore, Ill.

▲ Mention Item NED-2098 when writing ▲



Vanes: Self-seating . . self-adjusting . . . springless non-pulsating air flow
Automatic shaft seal: no packing, no leaking, no adjusting.

MORE of EVERYTHING
. . . Except COMPLICATION!

Instead of complicating matters with numerous means-to-accomplish-ends, Gasts use the forces inherent in things themselves. Example: The one-piece rotor creates centrifugal force, making the one-piece vanes sweep the cylinder walls infallibly. What could be simpler, surer? Thus the finely-built Gast delivers MORE per pound, MORE per horsepower, LESS of maintenance-breeding complexity. Thus, users and manufacturers prefer Gasts as standard equipment. Write for the new idea-packed Gast catalog! . . . GAST MFG. CORP., 115 Hinkley St., Benton Harbor, Mich.

GAST ROTARY

1780

VACUUM PUMPS (to 28 in.) • **AIR COMPRESSORS** (to 30 lb.) • **AIR MOTORS** (to 1 h.p.)

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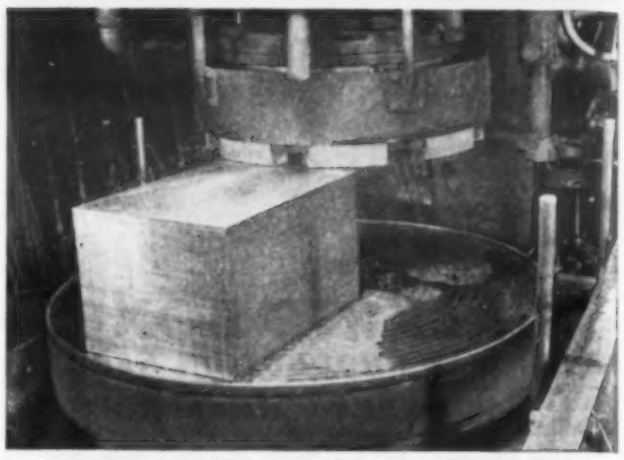


Segment Life Doubled
With the Sensational 32 ALUNDUM*

Segment life jumped from three days per set to six days per set when this manufacturer of die castings changed to 32 ALUNDUM abrasive for surface grinding vanadium steel impression blocks. And grinding time was cut over an hour on each block.

It will pay you, too, to change to 32 ALUNDUM abrasive.

NORTON COMPANY, WORCESTER 6, MASS.

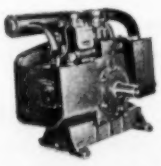
NORTON ABRASIVES

* T.M. Reg. U.S. Pat. Off. W-1108

▲ Mention Item NED-2100 when writing ▲

SMOOTH POWER *Two-Cylinder*

The NEW ONAN
***AIR-COOLED* "CK" ENGINE**
10 H. P. 4-CYCLE



Two-cylinder horizontal opposed design gives the new, heavy-duty CK engine unusual running smoothness. Short, rigid crankshaft . . . 2-inch diameter main and 1⅝-inch diameter rod bearings . . . pressure lubrication . . . axial-flow cooling fan . . . aluminum construction giving 4-to-1 cooling advantage over cast iron . . . weighs only 97 pounds and fits neatly into 15" x 19" x 18" space. Designed to solve engine power problems in industry, agriculture and other fields. Proven by thousands in use today . . . now in mass production . . . prompt delivery.

Also has: Built-in precision governor . . . downdraft concentric carburetor for wide-angle operation . . . oil bath air cleaner . . . fuel pump . . . oil pressure gauge . . . crankcase fumes exhausted to carburetor . . . hermetically sealed magneto ignition coil with easy-to-get-at breaker points, 2-qt. oil capacity.

ONAN ELECTRIC PLANTS—A.C.—350 to 35,000 watts in standard voltages and frequencies; D.C.—600 to 10,000 watts, 115 and 230 volts. Battery chargers—500 to 3,500 watts, 6 to 115 volts.
ONAN AIR-COOLED ENGINES—CK: 2-cylinder opposed, 10 h.p.; BH: 2-cylinder opposed, 5.5 h.p.; 1B: 1-cylinder, 2.5 h.p.

Electric Starting
Built-in electric push-button or automatic starting is optional; adds little to overall dimensions.

WRITE FOR COMPLETE SPECIFICATIONS

D. W. ONAN & SONS INC.
3867 Royalston Ave.
Minneapolis 5, Minn.

ONAN *4 Cycle* **ENGINES**

▲ Mention Item NED-2101 when writing ▲

SAFE

and easy on the feet

● Prevent slips and falls—reduce fatigue — by installing Multigrip Floor Plate. Men and vehicles start, turn, stop — promptly, safely — on this protective floor plate, be it wet or dry.

Install U·S·S Multigrip Floor Plate for economy, too. It makes your floors stronger, makes them last longer.

Inquire at your nearest steel warehouse or write to us direct.

USS STEEL UNITED STATES STEEL

U·S·S MULTIGRIP FLOOR PLATE

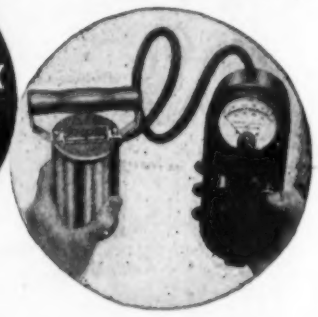
CARNEGIE-ILLINOIS STEEL CORPORATION
Pittsburgh and Chicago
Columbia Steel Company, San Francisco, *Pacific Coast Distributors*
Tennessee Coal, Iron & Railroad Company, Birmingham, *Southern Distributors*
United States Steel Export Company, New York

UNITED STATES STEEL

▲ Mention Item NED-2102 when writing ▲

HERE'S *better, faster* MOISTURE TESTING *for* INDUSTRY

PORTABLE
EASY TO USE
NO POINTS TO BREAK OR MAR.
ACCURATE DOWN TO 0%



3 VERSATILE MODELS...

L-2, Flat Surface Type: for smooth surfaced materials.
K-2, Irregular Surface Type: specially designed for rough or smooth materials of any contour.
V-2, Thin Material Type: for thin, smooth surfaced, flat materials.

Scientific calibration, based on standard method for your trade, supplied with each instrument.

MANY APPLICATIONS—Moisture Register is based on principle of high frequency, power absorption. All models have wide field of adaptability, throughout all industries—as to materials, methods of use and range of moisture content. Special calibration for specific needs supplied at nominal cost.

WRITE TODAY for complete information, specifying type of material and range of moisture content to be tested. Moisture Register Company, Dept. H, 133 North Garfield, Alhambra, Calif.

ELECTRONIC MOISTURE REGISTER FOR INDUSTRY

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Here's why ★ FLAMENOL* CORDS Add Extra Service ...TO PORTABLE TOOLS

Flamenol cords are made to take abuse. They're designed, built, and tested to withstand flexing and twisting. They're tough all the way through — to help keep tools *in service, out of the repair shop.*

Flamenol cords withstand severe operating conditions. The durable jacket protects against abrasion, grease, and oils — resists water, acids, alkalies. For replacements, for original equipment, Flamenol cords help keep your tools on the job.

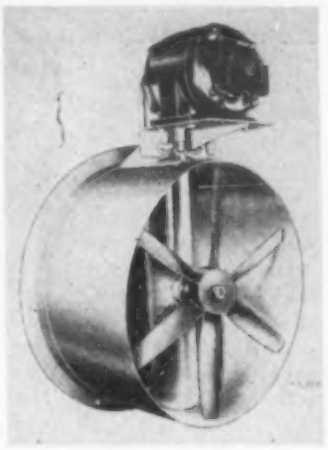
For further data, call your General Electric Merchandise Distributor, or write to Section W53-461, Appliance and Merchandise Department, General Electric Company, Bridgeport 2, Connecticut.

**Trade-mark Reg. U. S. Pat. Off.*

GENERAL ELECTRIC

▲ Mention Item NED-2104 when writing ▲

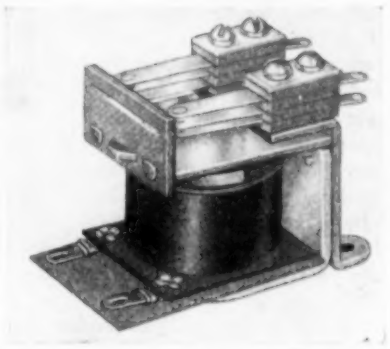
SPRAY BOOTH EXHAUST FAN



Positive elimination of hazardous fumes and vapors is accomplished with this Dana paint spray booth fan. Six available fan sizes range from 24 to 30 inches and exhaust from 5200 to 12,000 cubic feet of air per minute at free air pressure. Propellers are made of aluminum for nonspark operation. Belt is entirely enclosed and out of air stream. Adjustable motor base is located outside of duct area so that motor is not exposed to fumes. Specifications are Underwriters approved. Made by **George B. Klee Co.**, 3501-27 Colerain Ave., Cincinnati 23, O.

▲ Mention Item NED-2105 when writing ▲

MIDGET RELAY



Available with wide range of contact switch combinations up to and including four-pole double-throw design, series 600 compact midget relays are low cost units. Short contact blades in assembly eliminate intermittent contact. Relay consists of coil assembly and contact assembly. Each part is interchangeable. Contact assembly can be used with any of standard series 600 or 605 coils for operation on 3, 6, 12, 18, 24, 32, 50, 115 or 230 volts alternating current or 3, 6, 18, 24, 32, 50 or 110 volts direct current. Maximum contact current capacity is 8 amperes and power consumption is 6 volt-amperes. Made by **Guardian Electric Mfg. Co.**, Dept. 600, 1626 W. Walnut St., Chicago 12, Ill.

▲ Mention Item NED-2106 when writing ▲

FORK TRUCK PUSHING DEVICE

Suitable for use with almost any type of load, this fork truck pushing attachment can be used on Carloader, Utilitruc and other models of Clark industrial trucks. Attachment has maximum stroke of 52 inches and thrust capacity of 4000 pounds. It can be used for handling self-contained loads as well as loads on pallets. Truck in illustration is shown spotting bags in warehouse. Made by Clark Tructractor Div., **Clark Equipment Co.**, 1952 Arze St., Battle Creek, Mich.

▲ Mention Item NED-2107 when writing ▲

. . . JUST TRY 1

MOCCASIN BUSHING [*on your most* **TROUBLESOME BEARING**

The success of Moccasin Bushings' efficiency lies in their unique lubrication principle. Oil is drawn from a reservoir in the bearing housing and is distributed by capillary action in a continuous, unbroken film over the entire bearing surface. Drippage and seepage of oil is entirely eliminated, and under ordinary circumstances they require attention only two to four times a year—just try one on your most troublesome bearing. Guaranteed for satisfactory service. Write for folder No. 428 showing nine other styles of bushings.

Moccasin BUSHING COMPANY
CHATTANOOGA TENNESSEE

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Dings magnetic pulleys

Dings Magnetic Pulleys do a thorough job of automatic tramp iron removal wherever they are installed as head pulleys in conveyor systems... Applications range from metal mines to textile mills...in *any* place where positive tramp iron removal is important.

Built for heavy-duty continuous use...Air-cooled design, bronze coil covers and end rings for high magnetic efficiency.

Write Dings for descriptive Catalog No. 260.

DINGS MAGNETIC SEPARATOR COMPANY
4759 W. McGeogh Ave., Milwaukee 14, Wis.

Dings "HIGH INTENSITY" *"Seperation Headquarters Since 1899"*

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For Every Industrial Need!

Designers find Western Felt useful for many component parts in which *extra* performance characteristics are essential. It's an unusually versatile material that can be processed to a wide range of specifications—*from wool soft to rock hard.* It cuts readily to any form and does not ravel, fray or lose its shape.

Write, wire or phone today!

WESTERN FELT WORKS
4035-4117 Ogden Avenue, Chicago 23, Illinois
Branches in All Principal Cities
LARGEST INDEPENDENT MANUFACTURERS and CUTTERS of WOOL HAIR and JUTE FELTS

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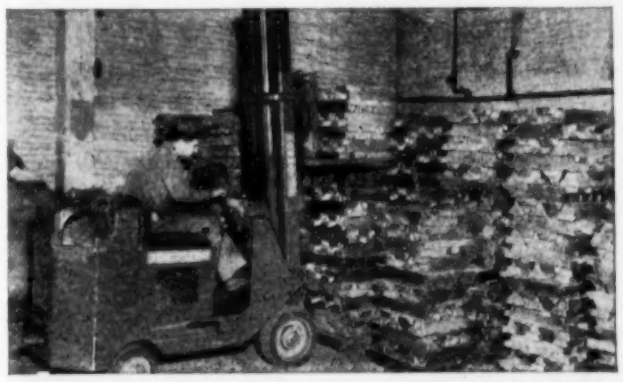

THERE'S PLENTY OF ROOM IN THE BALCONY!

In many plants, outmoded handling methods prevent full utilization of the existing storage area. In many other plants, Towmotor Fork Lift Trucks have doubled, even tripled, storage capacity through high stacking of materials and products.

Let Towmotor show you how to "fill the balcony," convert wasted "upper" space into profitable warehouse space. Towmotor Corporation, Div. 25, 1226 East 152nd Street, Cleveland 10, Ohio.

TOWMOTOR FORK LIFT TRUCKS *and* TRACTORS
RECEIVING · PROCESSING · STORAGE · DISTRIBUTION

▲ Mention Item NED-2111 when writing ▲

Follow the leaders — for rugged, heavy duty work or for light intricate work — HEXACON is the answer. One reason is "Balanced Heat" which minimizes element burn-outs and tip replacements. Another, is lightweight. Literature is available describing the complete HEXACON line — screw tips and plug tips, from 40 to 700 watts.

HEXACON ELECTRIC CO.
145 W. Clay Avenue
Roselle Park, N. J.

▲ Mention Item NED-2112 when writing ▲

MODEL 430 SERIES

Matched Portables

Universal favorites for electrical testing and maintenance . . . compact and extremely rugged, high-visibility mirror scales and knife edge pointers, accuracy and dependability in the WESTON tradition . . . all at relatively low initial cost. Available for all AC and DC requirements. See your nearest WESTON representative or write direct . . . Weston Electrical Instrument Corporation, 663 Frelinghuysen Avenue, Newark 5, New Jersey.

Weston *Instruments*

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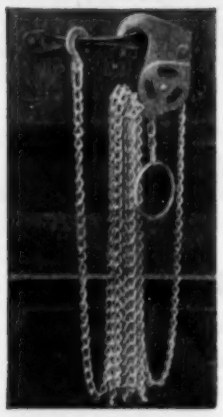
WORLD'S EASIEST WAY
TO OPEN ANY BOX CAR DOOR



MONARCH
ONE MAN
CAR DOOR OPENER

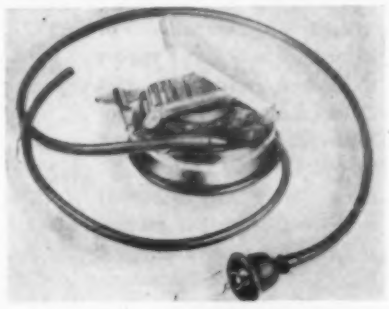
One man can open the most binding balky box car door with the Monarch Car Door Opener. Get greater safety . . . speed loading and unloading schedules . . . order an ample supply to fill your needs today!

• *No strained muscles. No slips or falls. No broken arms, legs or mashed fingers. No fatalities. No time wasted. No "gangs" needed. No time loss. Write for free descriptive literature.*

MINING SAFETY DEVICE CO., Dept. NE-4, Bowerston, O.

▲ Mention Item NED-2114 when writnig ▲

SMALL WATER FILTER



Construction crews and other small groups working remotely from approved public water supplies can be protected against water-borne disease such as typhoid and dysentery with this pocket-sized Mini-Filter water filtration unit. It includes hand pump and filter together with purifying kit. Overall weight is less than 5 pounds. Principle of operation is same as that used by municipal filter plants. Distributed by Wallace & Tiernan Co., Belleville, N. J.

▲ Mention Item NED-2115 when writing ▲

AIR MOTOR CONTROL HANDLE

Usable with Airetool tube cleaning motors, this hand grip valve converts these power units so that they are adaptable for cleaning, buffing, grinding and general utility purposes. Grip is fitted with finger operated trigger valve which controls speed of motor. Shaped to provide comfortable and positive grip, control handle offers convenient means of holding tools. Made by Airetool Mfg. Co., 210 Shuey Bldg., Springfield, O.

▲ Mention Item NED-2116 when writing ▲

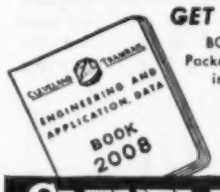
STEEL MARKING DEVICE

By means of this marking device, name, trademark, grade or specifications can be printed either continuously or at intervals on tool steel, sheet steel or steel tube. It will print on all sizes of flat and round bars ¼-inch square or ¾-inch in diameter and larger and on flats or sheets ¼-inch wide and larger.

Unit consists of cast aluminum frame with detachable cast handles which can be removed easily if unit is to be mounted in fixed position. Adjustable rolls guide unit during marking operation. Interchangeable segment shaped rubber type and logotype dies are used and device provides for quick changing of type in any quarter section of printing wheel. Hand operated model is set on piece to be printed and pushed over length to make imprint. No pressure is necessary. When unit is held in fixed position, marking is accomplished by merely pushing part under device. Made by Jas. H. Matthews & Co., 3943 Forbes St., Pittsburgh 13, Pa.

▲ Mention Item NED-2117 when writing ▲

Many Cleveland Tramrail rack carrier systems are cutting costs by eliminating rehandling. Because of the smooth overhead track and easy rolling ball-bearing carriers, long train loads of materials can be pushed by one man with little effort. Carrier wheels are available for operation in high-temperature ovens. Systemmatize with rack carriers and save on floor wear.



GET THIS BOOK!
BOOK No. 2008
Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6604 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

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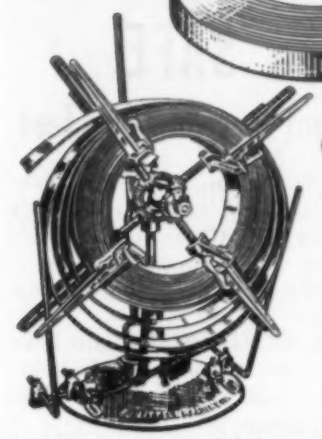
TOPS ON SPEED



IN HANDLING
COIL STOCK

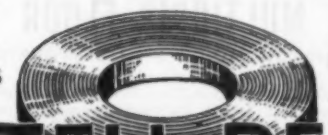
AUTOMATIC centering and balancing of coil stock is done with speed, ease and saving of material with LITTELL Automatic Centering Reels. Plain and motor-driven types. Capacities, 100 to 6,000 lbs. Coil Cradles for coils up to 20,000 lbs.

Other Littell press-room equipment includes: Roll and Dial Feeds, Power Straighteners, Scrap Winders, Air-Blast Valves, Vacuum and Mechanical Pickers.

Littell Reels center and balance coil stock. Ball bearings. Adjustable brake and bars. With loading lever, one man can load coils up to 300 lbs.

F. J. LITTELL MACHINE CO.
4161 Ravenswood Ave.
Chicago 13 Ill.

REQUEST BULLETINS



SPEED WITH SAFETY

LITTELL REELS

▲ Mention Item NED-2119 when writing ▲

What's a *"Veeder-Reading"* ...and how does it tell your future ?

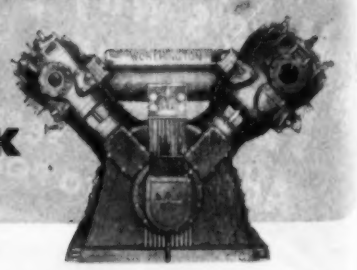
"Veeder-Reading" is a standard term originated by one of the leading electrical manufacturers to designate the figures noted down, at stated intervals, from the face of a Veeder-Root Counting Device installed on a production machine or process.

And Every "Veeder-Reading" is a *Direct Reading* that tells the story without need of translation . . . tells in bold figures the exact number of turns, strokes, pieces, trips, motions or other performance-units completed by a machine during a minute, hour, shift or other production-period.

VEEDER-ROOT INC.
Hartford 2, Connecticut

▲ Mention Item NED-2120 when writing ▲

TWO CONNECTIONS PUT IT TO WORK



It's a Worthington HUSKIE

Worthington's Y C Motor Compressor comes to you ready to go to work . . . just as soon as you connect it to your source of power and air outlet. No erecting engineer or special foundation is needed . . . occupies 75% less floor space than horizontals of equal capacity. Add those features to higher speeds, easy inspection, efficient Feather*Valves, drive adaptability and you'll see why *there's more worth in Worthington*. Write for Bulletin L-667-B1 . . . Publication Dept., Harrison, N. J. *Worthington Pump and Machinery Corporation, Compressor Division, Buffalo, N.Y.* *Reg. U. S. Pat. Off.

NO OTHER COMPRESSOR WILL OUTPERFORM A WORTHINGTON HUSKIE

WORTHINGTON

K5.41

▲ Mention Item NED-2121 when writing ▲

LINDERME

USERS SAY:

Production UP . . . Costs DOWN!

2 HOLES • 1 STROKE

THAT'S SIMPLE ARITHMETIC with a LINDERME Two Spindle Adjustable Drill Head on the job. Here's a drill head *low* in price, *high* in productivity. Its versatility makes it a gold mine. Linderme Drill Head users in general and production machine shops, plastics fabricators and others report great savings from a low initial investment . . . It's quickly set to variable centers from ½ to 6", drill capacity up to ⅝", adaptable to various tapping units. Models A and B for sleeve adaptation to drill press quills; Models C and D with "over arm" arrangement, mounted on heavy ground base for use with drill fixtures. *Write for Bulletin.*

LINDERME MACHINE AND TOOL CO., INC.

12263 COYLE AVE. • DETROIT 27, MICH.

▲ Mention Item NED-2122 when writing ▲

REMOTE SWITCH CONTROL

INSTANT FINGER-TIP CONTROL FOR MACHINE TOOLS

Here's the new low-cost Arens Remote Switch Control which provides instant starting and stopping for machine tools without rewiring. It also reduces machine tool installation costs and provides greater safety.

The control head may be quickly mounted on the machine at the point most convenient for the operator. The flexible cable can then be carried to the switch box which may be located either adjacent to the motor or convenient to present wiring or junction box.

If desired the control head may be mounted so the operator with body pressure against the switch button can turn the machine off.

Write for Bulletin No. 11 Today

Many Models Available

Standard Models (such as the installation above) as well as special units are available for any type of machine tool operation. This control is also particularly economical for installation on multiple units.

ARENS CONTROLS, INC.

2254 South Halsted Street • Chicago 8, Illinois

▲ Mention Item NED-2123 when writing ▲

ONE MAN with L-B CAR SPOTTER

Moves Cars of Steel . . . Easily!

Alert operators are using the Link-Belt Electric Car Spotter to save time and manpower on dozens of heavy, backbreaking jobs of moving that formerly called for gangs of men. Now one man, with this motor-driven capstan, pulls 5,000 and 10,000 lbs. at 45 ft. per minute. Stationary or portable styles; integral or separate motors, 5 or 10 H.P. Why not get the facts?

WRITE TODAY for illustrated Book No. 1992. It gives full details.

LINK-BELT COMPANY

2410 W. 18th St., Chicago 8, Illinois 10,430

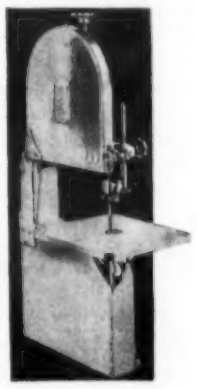
▲ Mention Item NED-2124 when writing ▲

HOSE CLAMP KIT

Containing assorted sizes to meet wide range of applications, master kit of Punch-Lok hose clamp bands meets needs of industrial requirements for banding rubber hose to nipples and fittings. Wide variety of general repair applications also is possible. Kit contains quantity of both open-end and preformed bands. Made by **B. F. Goodrich Co.**, Dept. E, 500 S. Main St., Akron, O.

▲ Mention Item NED-2125 when writing ▲

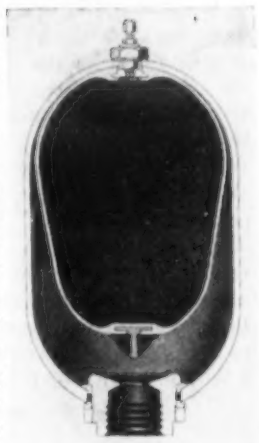
BAND SAW



Precision balanced wheels of this model No. 80 Simple-Simon band saw provide smooth operation, and heavy spring tension on saw blade reduces breakage to minimum. Guard over blade is furnished for safety. Each wheel is double ball bearing suspended. Cast ribbed table tilts to 45 degrees. Main components are constructed of dural and aluminum to afford lightweight easily cleanable nontarnishing unit. Machine stands 37 inches high and it is 22½ inches wide. Made by **Hamer-Nixon Corp.**, 402 Swetland Bldg., Cleveland 15, O.

▲ Mention Item NED-2126 when writing ▲

HYDRAULIC ACCUMULATOR

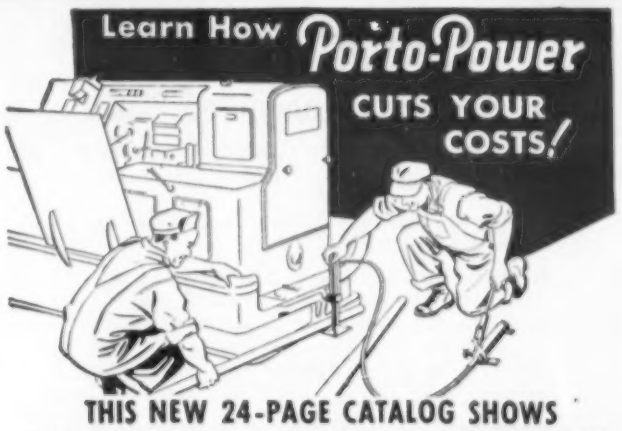


Volumetric efficiency of this hydraulic accumulator is claimed to be 97 per cent with unrestricted flow of up to 50 gallons per minute without appreciable pressure drop in systems operating at pressures as high as 3000 pounds per square inch. Accumulator unit incorporates seamless steel shell which encloses an air bladder made of natural or synthetic rubber, depending upon type of fluid used in system. Bladder has high pressure automotive type air valve on one end for preloading with air and integrally molded conical shaped metal plug on the other end. Metal plug eliminates direct contact between rubber bladder and outlet plug so as to minimize possibility of bag failure resulting from pick-out of bag from perforated plug.

Accumulator features simplicity of design and elimination of moving parts. Bladder serves as permanent wall between air and oil chamber and makes leakage between two virtually impossible. Bladder will withstand working temperatures from —40 to 200 F and will retain air charge up to 3 months without attention. Made by **Greer Hydraulics, Inc.**, 454 Eighteenth St., Brooklyn 15, N. Y.

▲ Mention Item NED-2127 when writing ▲

▲ Mention Item NED-2128 when writing ▲



THIS NEW 24-PAGE CATALOG SHOWS HOW *Porto-Power* SERVES YOUR ENTIRE PLANT

YOUR GUIDE TO FASTER, BETTER WORK! This new Blackhawk catalog contains information on the entire Porto-Power line including sensational Postwar developments. See how this remotely controlled hydraulic jack provides a *complete system* of portable hydraulic power and creates cost-cutting opportunities for you. Write today for your Blackhawk Postwar Porto-Power Catalog. Order Porto-Power from your Blackhawk Industrial Supply Distributor.

A Product of **BLACKHAWK MFG. COMPANY**
Dept. P1447, Milwaukee 1, Wisconsin

BLACKHAWK

▲ Mention Item NED-2129 when writing ▲

NEW!

OZALID STREAMLINER

• Reproduces your engineering and architectural drawings in seconds—also your typed, printed, photographic material.

• Moderately priced . . . designed for drafting rooms that want these 5 EXTRA VALUES in Printmaking at no extra cost—

1. Efficiency: You get positive (not negative) prints direct from your tracings in *two* simple steps: Exposure and Dry Development.

2. Speed: Your prints are delivered completely dry, ready for use in only 25 seconds.

3. Economy: An 8½ x 11" print costs one cent; 11 x 17", two cents. You can make prints up to 42 inches wide, any length. Your Streamliner requires only 11 sq. feet of floor space.

4. Versatility: The lines and images on your originals can be reproduced in black, blue, red, sepia, yellow . . . on paper, cloth, foil, film, or plastic. All prints are made in *same manner* . . . simply choose type of Ozalid material best for job at hand.

5. Simplicity: Anyone can be the operator. Prints are delivered on top, stacked in order, within easy reach.

SEE the 10 different types of Ozaprints you can make. *Learn* all about the new Ozalid Streamliner! Write today for free booklet No. 246.

OZALID

Division of
GENERAL ANILINE AND FILM CORPORATION
Johnson City, New York

Ozalid in Canada Hughes Owens Co., Ltd., Montreal

▲ Mention Item NED-2130 when writing ▲

LAMICOID

...the all-purpose Laminated Plastic

HEAT AND MOISTURE RESISTANCE · DIMENSIONAL STABILITY
HIGH IMPACT STRENGTH · HIGH ARC RESISTANCE

Readily sawed, punched, sheared, machined into intricate shapes. Ideal for . . .

Electrical Insulation—coil forms, bases, condensers, circuit breakers, rheostats and other insulating components where high dielectric strength, low power factor, moisture and temperature resistance are required. Suitable for high or low voltage uses.

Mechanical Applications—gears, pinions, spacers, pulleys, baffles, etc., where machinability, light weight, high impact strength, resiliency, and resistance to moisture, heat and corrosion are essential.

Industrial and Decorative Uses—such as dials, charts, signs, nameplates, lighting fixtures, etc., where attractiveness, legibility, durability and ease of cleaning are important.

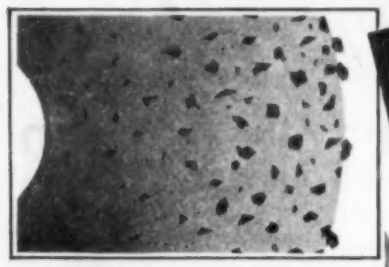
Send for new 4-page bulletin on LAMICOID.

Sales Offices and Fabricators in Principal Cities

MICA Insulator COMPANY
Dept. 34, Schenectady 1, New York

▲ Mention Item NED-2131 when writing ▲

KEEPS COLLECTING MICRONIC PARTICLES



TWICE AS LONG

New CUNO MICRO-KLEAN uses revolutionary principle to **CUT CARTRIDGE REPLACEMENT COSTS IN HALF!**

An exclusive Cuno development—Graded Density in Depth—gives this molded fibre filter double the service life of any replaceable-cartridge micronic filter.

No sealing-over — particles penetrate to varying depths.

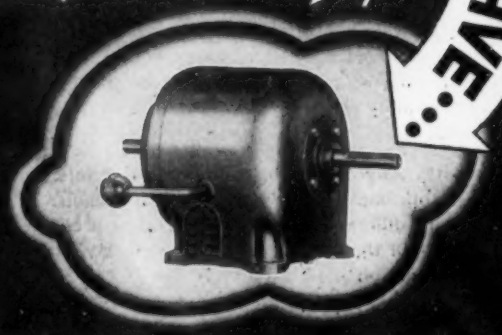
Resinous-impregnated — no channeling, rupturing, shrinking or distortion.

Write Cuno for full facts on Micro-Klean filter for lube, hydraulic or fuel oil, water and water solutions, compressed air, acids. Cuno Engineering Corporation, 704 South Vine Street, Meriden, Connecticut.

CUNO *Fluid Conditioning*
REMOVES MORE SIZES OF SOLIDS FROM MORE TYPES OF FLUIDS

▲ Mention Item NED-2132 when writing ▲

NOW! YOU CAN HAVE... Multi-Speed GEAR REDUCTION DRIVES FOR NEW OR USED MACHINERY REQUIRING UP TO 1 hp.



TYPE RD ILLUSTRATED DESIGNED FOR SEPARATE MOTOR DRIVE. OTHER INTEGRAL LIMA GEARSHIFT DRIVES, SINGLE PHASE ½ AND ¾ HP., POLYPHASE ½ TO 20 HP.

THE LIMA ELECTRIC MOTOR CO.
351 Findlay Road
LIMA, OHIO
REPRESENTATION IN MOST PRINCIPAL CITIES
LIMA GEARSHIFT DRIVES
LIMA PEDESTAL GRINDERS · LIMA ELECTRIC MOTORS

▲ Mention Item NED-2133 when writing ▲

LIQUID LEVEL TRANSMITTER

Particularly applicable for indicating or recording level of viscous liquids or liquids with solids in suspension, this model No. 229RF liquid level transmitter is highly sensitive, nonclogging and corrosion resistant. Single compact unit measures level of liquid and transmits air pressure proportional to level to remote instrument.

Transmitter is recommended also for handling levels in liquids or solutions which solidify in usual pressure lines or manometer connections and for measurement of relatively low pressure corrosive gases or liquids. Unit consists of metal diaphragm in a 3-inch, 150-pound per square inch stainless steel flange which can be attached to bottom or side of open or vented tank. Transmitter operates on force-balance principle. In operation, output air pressure is equal to applied pressure or liquid head and has range of 450 inches of water with an accuracy of plus or minus 1 inch of water. Made by **Taylor Instrument Cos.**, P. O. Box 110, Rochester 1, N. Y.

▲ Mention Item NED-2134 when writing ▲

CIRCUIT BREAKER

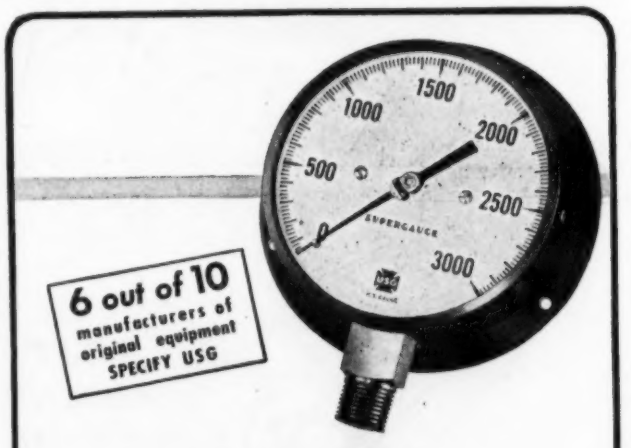
Feature of this Quicklag circuit breaker is tripping action which combines inverse time limit characteristics of bimetal thermal action on overloads with the operating speed of magnetic trip action on short circuiting. Units are available in single or double throw models for operation on from 10 to 50 amperes, 125 to 125/250-volt alternating current. Improved De-ion arc chute eliminates need for vent screen in bottom and permits mounting flush to pan. Circuit breaker has same overall mounting dimensions as previous model. Made by **Westinghouse Electric Corp.**, P. O. Box 868, Pittsburgh 30, Pa.

▲ Mention Item NED-2135 when writing ▲

We Beg Your Pardon . . .

In the description of Micro collet type drill chucks (*Item NED-738, Feb. '47*) an error appeared. It was erroneously stated that "Once alignment is made, it is necessary to realign chuck when new drills are used." Actually, it is not necessary to realign the chuck. Through a typographical error, the word "not" was omitted. These precision chucks for drills ranging in size up to 0.04-inch are made by **Chicago-Latrobe Twist Drill Works**, 411 W. Ontario St., Chicago 10, Ill.

▲ Mention Item NED-2136 when writing ▲



6 out of 10 manufacturers of original equipment SPECIFY USG

Tomorrow's accuracy is here today in the new U. S. Supergauge. Get complete information about this superb instrument now.

U.S INSTRUMENTS Tell The Truth

UNITED STATES GAUGE

USG

DIVISION OF AMERICAN MACHINE AND METALS, INC., SELLERSVILLE, PENNA.
Manufacturers of Pressure, Temperature, Flow and Electrical Measuring Instruments

▲ Mention Item NED-2137 when writing ▲

IT'S ALIVE ▶

Nuplaflex

CRUSH IT IN A VISE. IT HEALS ITSELF!

THE NUPLA HAMMER LINE

Craftsmen—You don't need six or a dozen types of soft-face hammers. Use Nupla Hammers to do the job of all. The durable *Nuplaflex* tip outlasts conventional soft-face hammers many times. Mar-proof on finished surfaces . . . no fire hazard . . . no sting . . . no rebound. Available in three grades: soft, medium, tough.

When you buy a soft-face hammer, look for the Nuplaflex tip!

NEW PLASTIC CORPORATION
1017 NORTH SYCAMORE AVENUE • LOS ANGELES 38, CALIFORNIA
For complete information, write Dept. NED-4

▲ Mention Item NED-2138 when writing ▲

1-kw RCA Electronic Power Generator

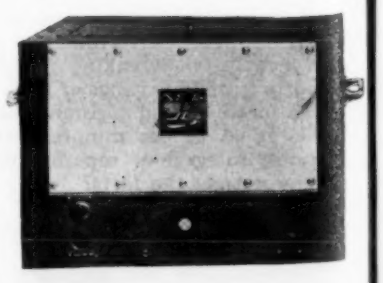
~~SLASHES~~ soldering and brazing time

Now you can bring all the advantages of induction heating to small soldering and brazing jobs. The RCA Type 1-AL electronic power generator puts repetitive, manual operations on a "pushbutton" basis; speeds continuous or conveyor applications. Output and quality go up; costs go down.

Outstanding features include: a separate applicator to save space in the work area . . . foot-switch or pushbutton starting . . . automatic or manual shut-off . . . a "universal" output transformer that provides a match for any load. Automatic grid control eliminates tuning.

Get your copy of our new bulletin on this easy-to-operate production booster. Write Dept. 63-D.

RCA Applicator
For convenience, RCA induction heating equipment is divided into two units. Only the applicator need be at the work position.



INDUSTRIAL ELECTRONICS
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.
In Canada: RCA VICTOR Company Limited, Montreal

▲ Mention Item NED-2139 when writing ▲

▲ Mention Item NED-2140 when writing ▲

When Considering Flooring Problems — get these facts

Here are three bulletins which tell the story of a better, longer lasting, heavy-duty flooring.
EMERI-CRETE is the *original* emery flooring which *pioneered* the use of a carefully selected and scientifically balanced 100% emery aggregate—a *complete* bagged aggregate, protected from contamination from our plant to yours, and until used; mixed with portland cement and water only, and as easily applied as ordinary concrete.
Hundreds of leading plants have tested EMERI-CRETE—then reordered increasingly larger quantities. One prominent company ordered *twenty-six carloads* during a three year period—others have specified EMERI-CRETE for one plant after another—*proofs* of its remarkable service are available, including names of users.
Let us send you any one, or all three, of these bulletins—and, if you care to try a test section at your toughest spot we will submit an estimate as to quantity needed and cost.
When thinking of the *best* flooring keep EMERI-CRETE in mind.

Walter Maguire Co., Inc., 330 W. 42nd St., New York 18, N. Y.

EMERI-CRETE FLOORING

Reg. U. S. Pat. Off.

▲ Mention Item NED-2141 when writing ▲

BY THESE *GOOD* NAMES you shall know us

• These and hundreds of other users of shipping containers are numbered among our customers. Whatever the product may be—from pianos to precision parts—our 25 years' experience enables us to design containers that assure better protection, reduce weight, and provide for increased production. Write today for your free copy of "The General Box."

25 YEARS YOUNG 1922·1947

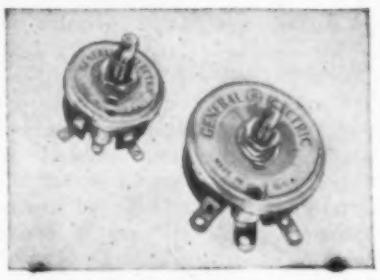
25 years experience in designing better containers for all industry.

GENERAL BOX COMPANY

GENERAL OFFICES: Corner of Illinois and Dearborn Sts., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, New Orleans, Sheboygan, Natchez, Winchendon. Continental Box Company, Inc.: Houston, Dallas.

▲ Mention Item NED-2142 when writing ▲

POWER RHEOSTATS

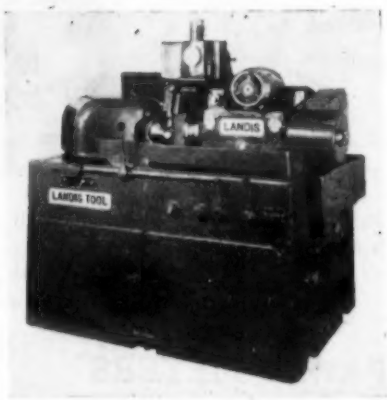


Recommended for applications involving dissipation of power, these power rheostats are available in 25 and 50-watt sizes and will provide close action and long life under conditions of high ambient temperature and humidity. They are wound with special alloy wire on a ceramic frame. Contact brush rides on large flat surface and assures perfect contact with minimum of wear.

Both sizes have standard resistance tolerances of plus or minus 10 per cent. Rotation is 295 degrees, plus or minus 5 per cent. Twenty-five-watt size can be obtained in ranges from 35 to 5000 ohms and 50-watt unit in resistance ranges from 35 to 10,000 ohms. Made by **General Electric Co.**, Schenectady 5, N. Y.

▲ Mention Item NED-2143 when writing ▲

VALVE GRINDER



Designed for grinding valves with face angles from 0 to 62½ degrees and face diameters from 7/16 to 3½ inches, type H valve grinder handles automotive and airplane engine valves. Microsphere bearing equipped headstock uses collets or V-blocks for chucking and it clamps hydraulically. Loading and unloading can be accomplished with headstock spindle rotating or it can be cycled to stop when grinding is completed. Wheel spindle is mounted on Miscrosphere bearing also. Reciprocating movement is adjustable from 0 to 5/8-inch. Standard wheel size is 20 x 1 x 8 inches and driving motor is 3 horsepower. Made by **Landis Tool Co.**, Chestnut & Sixth Sts., Waynesboro, Pa.

▲ Mention Item NED-2144 when writing ▲

METAL SAFETY PLANK

Loads in excess of 1000 pounds can be sustained on this metal safety plank. It weighs only 34 pounds and has non-skid surface consisting of raised grid pattern in metal. Hooks

on each end enable plank to be attached securely to ladder rungs and scaffold supports. Plank measures 12 by 84 inches in size and broad flat surface permits it to rest flat when laid on steps. Made by **LaRay Engineering & Equipment Co.**, 1029 N. Seventh St., Milwaukee 3, Wis.

▲ Mention Item NED-2145 when writing ▲

the RIGHT ACCESSORY plus SERVICE

MOTOWLIFT

Speeds Work Cuts Costs on Any Handling Job!

Immediate Delivery

To handle many types of materials *most* efficiently and economically, put Service MOTOWLIFT on the job. With special Service-developed accessories—interchangeable on the standard fork carriage—this fast-action Ford-powered fork lift truck is readily adapted to even the most unusual handling requirements. Write for complete details.

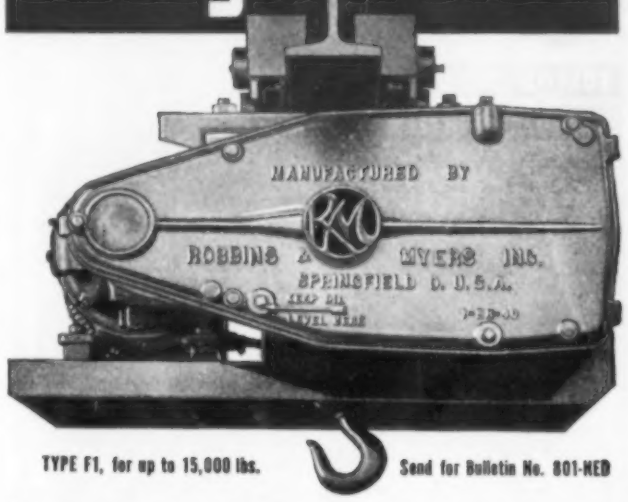
SERVICE CASTER & TRUCK CORP.

INDOORMOBILES Made EASIER and SAFER

Executive Offices: Albion, Michigan
Plants at Albion, Michigan and Somerville 43, Mass.
Representatives in all Principal Cities

▲ Mention Item NED-2146 when writing ▲

Strength of STEEL



TYPE F1, for up to 15,000 lbs. Send for Bulletin No. 801-NED

This sturdy, pendent-push-button-controlled hoist with safety frame of strong electrically welded steel is but one of hundreds of R & M models. Mechanism is free from complicating "gadgets," and easily accessible. Durable, automatic load brake requires no adjustment for years at a time. Send for literature. For loads up to one ton, ask for Bulletin No. 800-IM. Sales and Service Offices in 25 principal cities.

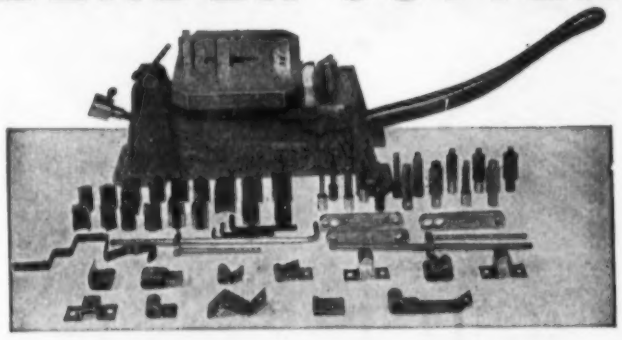
ROBBINS & MYERS, INC.
HOIST & CRANE DIVISION, SPRINGFIELD, OHIO

▲ Mention Item NED-2147 when writing ▲

MULTIFORM PRODUCTS

The illustration at the left shows just a few pieces produced on our famous Multiform Bender-Cutter. This efficient machine is useful in all lines of trade for production, experimental, and sample work. Short runs up to "5000." It punches holes, cuts the steel, and bends any shape.

THE FAMOUS **MULTIFORM BENDER-CUTTER**



FOUR-IN-ONE-TOOL

IT BENDS, CIRCLES, ANGLES, PUNCHES, CUTS

J. A. RICHARDS CO., 905 NORTH PITCHER ST. KALAMAZOO 13F, MICH.

▲ Mention Item NED-2148 when writing ▲

The KAYDON line is so complete, with such a broad line of types and sizes of ball and roller bearings . . . from 4" bore to the unusually large 120" outside diameter bearings . . . that many former handicaps to machine design are now removed.

KAYDON also offers following services: Atmospheric controlled heat treating, precision heat treating, salt-bath and sub-zero conditioning and treatment, microscopy, physical testing and metallurgical laboratory services. Contact KAYDON for every bearing need.

KAYDON *Standard or Special Bearings:* Spherical Roller • Taper Roller • Ball Radial • Ball Thrust • Roller Radial • Roller Thrust

THE KAYDON ENGINEERING CORP.
MUSKEGON · MICHIGAN

▲ Mention Item NED-2149 when writing ▲

▲ Mention Item NED-2151 when writing ▲

CUTTING TOOLS

$54,000,000 worth of cutting tools—thousands of types—are immediately available to those in the metal working industry who act quickly. The offering includes: cutting tools for machine tools, metal turning tools for metal turning machines, accessories and attachments for machine tools, and tool room specialties, all sizes and types. This entire inventory is being sold on sealed bids and will go at bargain prices to those who inquire—inspect—invest. Get full particulars from your nearest WAA Regional Office today—see the tools you wish to buy—then submit your bid.

Sales of Cutting Tools will be held at frequent intervals. To receive information on future sales, write to the Regional Offices listed below asking that your name be placed on their mailing lists.

BOSTON · PHILADELPHIA · CINCINNATI · CHICAGO
CLEVELAND · DETROIT · ST. LOUIS · LOS ANGELES

OFFICE OF GENERAL DISPOSAL
WAR ASSETS ADMINISTRATION
GOVERNMENT WAA SURPLUS

Offices located at:
Atlanta · Birmingham
Boston · Charlotte · Chicago
Cincinnati · Cleveland · Dallas · Denver
Detroit · Fort Worth · Helena · Houston · Jacksonville
Kansas City, Mo. · Little Rock · Los Angeles · Louisville · Minneapolis · Nashville
New Orleans · New York · Omaha · Philadelphia · Portland, Ore. · Richmond
Salt Lake City · St. Louis · San Antonio · San Francisco · Seattle · Spokane · Tulsa
1022

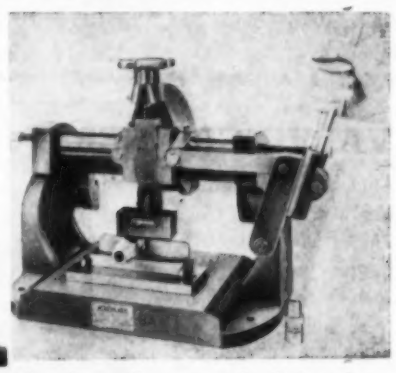
▲ Mention Item NED-2152 when writing ▲

INCLINABLE PUNCH PRESS

Line of open back inclinable punch presses consists of 30, 40, 50 and 90-ton capacity models with flywheel drives and 50 and 90-ton models with back geared drives. Features of line include rigid one-piece cast semisteel frame of heavy cross section to protect against distortion from overload and accurately machined gibs which are of maximum length to assure accuracy. Presses are designed for precision, heavy duty service and require minimum maintenance. Made by Vernon Press Div., **Ran Corp.**, Richmond, Calif.

▲ Mention Item **NED-2153** when writing ▲

MARKING MACHINE

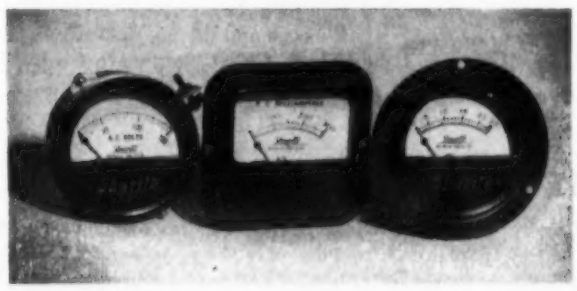


Turned surface between hexagon nuts on brass, copper, iron and steel couplings is marked permanently with this series 9A marking machine. Coupling or other part is rolled as marking die passes over it. Machine is readily adjustable for various sizes of workpieces. Anti-friction materials are employed on all pressure loaded surfaces to minimize wear and afford ease of operation. Made by **Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

▲ Mention Item **NED-2154** when writing ▲

PANEL METERS

Line of alternating and direct current 2 and 2-1/2-inch Shurite panel meters has accuracy within 5 per cent. Two round cases and one rectangular case can be furnished for alternating and



direct current ammeters, milliammeters, voltmeters and resistance meters. All direct current meters are of polarized vane solenoid type. Alternating current meters are of double vane repulsion type.

Dials are metal, moisture resistant and lithographed in black and white for good visibility. Additional colors can be supplied. Coil frames with attached insulators are featured. All models are flush mounting type and of black enameled brass construction. Bracket, ring or screw mounting, narrow or wide flange are design variations. Zero adjusters on two of the direct current types are supplied when required. Made by **Shurite Meters**, 25 Hamilton St., New Haven 8, Conn.

▲ Mention Item **NED-2155** when writing ▲

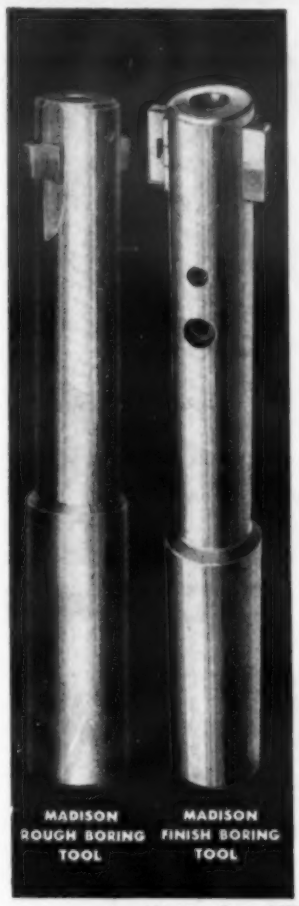
WHEN IS A MACHINE *"Washed Up"*?

A five-year-old Machine Tool is "washed up", for instance, if it can be replaced by one costing a few hundred dollars that will write itself off in less than a year through improved production. That's the story of Walker-Turner Machine Tools wherever metals, wood or plastics are drilled, cut or shaped.

A key to high manufacturing efficiency and **low manufacturing costs** is the modern, flexible, light machine tool. It represents small capital investment, flexibility of operation, increased productivity and low operating costs.

These machines are "light" only in weight and price. Their production output in the past eight years has astounded the management of thousands of plants—large and small—throughout the country. 34

▲ Mention Item **NED-2156** when writing ▲



MADISON
BOREAMING
Performs Miracles With Minutes

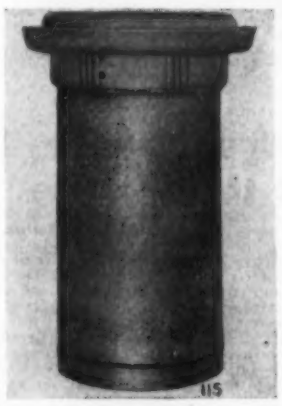
Madison *Boreaming* (performed only by teaming the new Madison Rough Boring Tool with the Madison Finish Boring Tool) cuts time from hole finishing and improves the quality of the holes obtained . . . delivering finished holes usually achieved only through the use of three to five ordinary tools. In many cases the Madison Rough Boring Tool removed as much stock in one pass as an ordinary single point tool removed in three passes . . . and at faster speeds. Holes are ideally prepared for a better finishing job by the Madison Finish Boring Tool. The Madison Finish Boring Tool delivers holes with a finish so fine that they seldom require any additional finishing. The cutter blades of each type of tool form their own cutting block. . . . No delicate parts to lose, break, or to complicate adjustment. Write for the new Madison Catalog.

* *Completed Boring Operation*

MADISON
MANUFACTURING COMPANY
Dept. ED-6 Muskegon, Mich.

▲ Mention Item **NED-2157** when writing ▲

They Lead A Double Life!
STANWOOD RETORTS



According to user reports, as much as 100% greater service life, as compared with ordinary all plate or all cast retorts, has been rendered by Stanwood Retorts, which are expertly fabricated from alloy plate and alloy castings.

Stanwood Retorts have extra strength and density of material where it is needed. In severe service they afford unusual resistance to expansion and contraction stresses such as warping and cracking. On a cost-per-hour basis they show maximum economy.

Stanwood Baskets and Retorts are the ideal combination for long service life.

Send for Bulletin 15, which presents modern day retorts, baskets, trays, carburizing boxes, fixtures and special containers.

Stanwood Corporation
4821 W. Cortland St. Chicago 39, Ill.

▲ Mention Item **NED-2158** when writing ▲

WRITE TODAY
FOR BULLETIN 610

EXPANDS to open ★ CONTRACTS to close

EMPLOYS **NO** METALLIC MOVING PARTS

GROVE REGULATOR COMPANY
6533 GREEN STREET, OAKLAND 8, CALIFORNIA
Branch Offices: 30 Rockefeller Plaza, New York 20
5644 Navigation Boulevard, Houston 11, Texas
1930 West Olympic Boulevard, Los Angeles 6, California

▲ Mention Item **NED-2159** when writing ▲

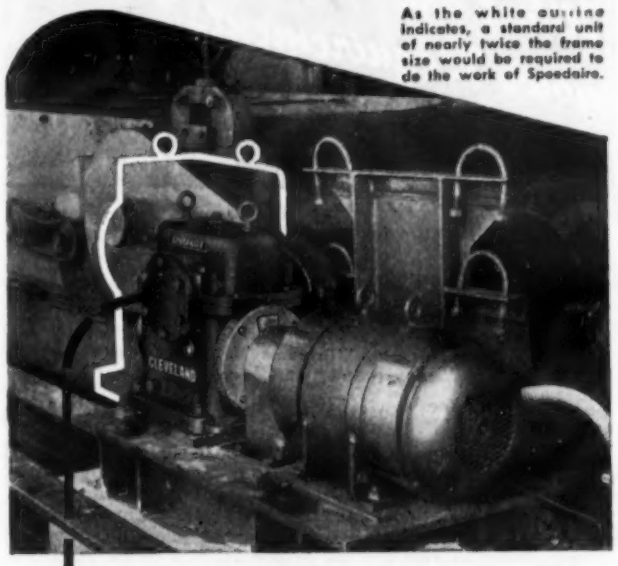
Use HEAT RESISTANT Silver Streak Metal Cloth

● An exclusive manufacturing process prevents metal scorch and adhesive melting. A heat-resistant backing, together with a grit bonding agent that will stand over 1700°F. make Silver Streak Metal Cloth unsurpassed for fine metal polishing.

Belts are available in a variety of grits, 40 and finer. When you order quality belts for metal finishing, be sure to specify Silver Streak.

Abrasive Products, Inc.
SOUTH BRAINTREE 85 MASSACHUSETTS · MAKERS OF JEWEL COATED ABRASIVES

▲ Mention Item NED-2160 when writing ▲



28% of cost saved with SPEEDAIRE

THIS Speedaire is installed in a well-known Ohio steel mill. It drives the rolls of a pickler through which steel sheets pass before hot dip galvanizing.

In selecting Speedaire for this job, the company saved three ways: It *saved dollars*—28% of the cost of a standard worm-gear speed reducer. It *saved weight*—36.6% of the floor load. And it *saved space*—50% of the room required to accommodate a conventional unit.

Speedaire is Cleveland's new fan-cooled worm-gear speed reducer. Because it is fan-cooled, Speedaire will do more work—will deliver up to *double the horsepower* of standard worm units of equal frame size, at usual motor speeds. It can be installed economically on many applications where other types have been used heretofore—giving you the advantages of a compact right-angle drive. Speedaire gives the same long, trouble-free service characteristic of all Clevelands.

For full description, send for Catalog 300. The Cleveland Worm & Gear Co., 3283 East 80th St., Cleveland 4, Ohio.

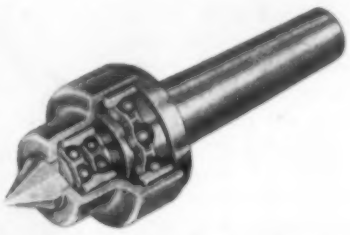
Affiliate: The Farval Corporation, Centralized Systems of Lubrication. In Canada: Peacock Brothers Limited.

CLEVELAND Worm Gear Speed Reducers

▲ Mention Item NED-2161 when writing ▲

LIVE CENTER

Replaceable alloy steel point of this Sturdimatic live center is ground true with bearings to assure precision operation. Unit has low overhang and slight cushioning action. This action compensates for expansion caused by heat, shock and excessive thrust loads. Large thrust bearing carries all thrust load and large radial bearing supports only radial load. Standard shanks with Morse tapers are carried in stock and Brown & Sharpe, Jarno and others can be supplied to specification. Made by **Sturdimatic Tool Co.**, 5216 Third Ave., Detroit 2, Mich.



▲ Mention Item NED-2162 when writing ▲

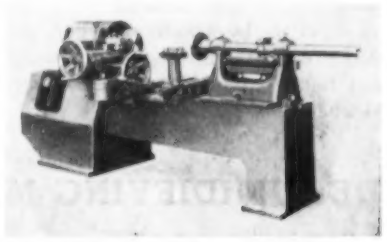
MATERIALS HANDLING FILM

"Payloads Pay Off" is title of 26-minute sound motion picture which presents up-to-date information on materials handling by means of electric industrial trucks. Through visual study of actual operations accomplished in the Pittsfield plant of General Electric Co., film reveals latest types of equipment and advanced methods of utilizing them under wide range of plant conditions. Companion motion picture is entitled "Skylift Newsreel" which presents engineering features and operating details of Skylift fork truck. Both films are available for showing to industrial plants, associations, civic groups, educational institutions and similar organizations. Films are available from **Automatic Transportation Co.**, 149 W. 87th St., Chicago 20, Ill.

▲ Mention Item NED-2163 when writing ▲

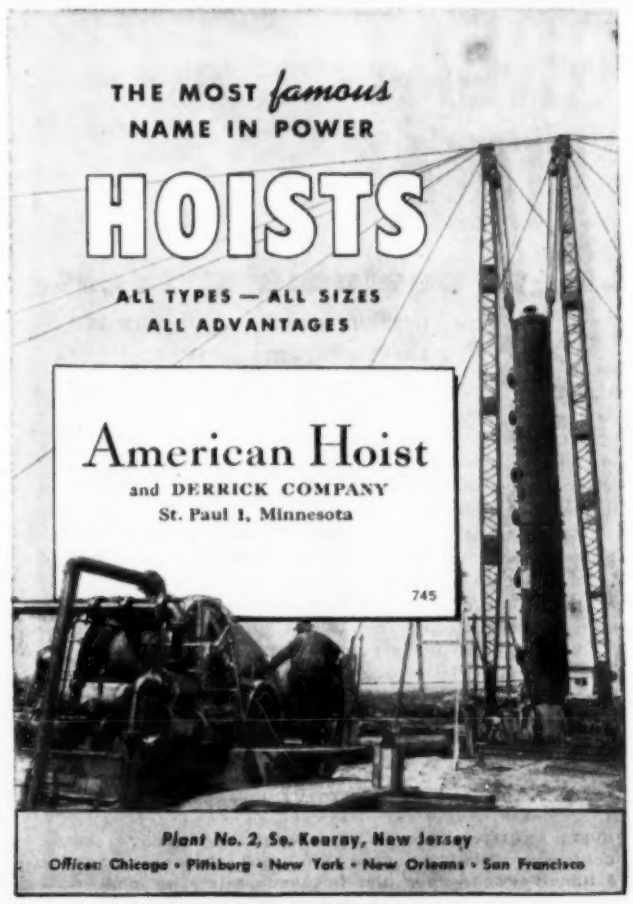
SECOND OPERATION LATHE

Designed primarily to supplement toggle press for producing shells or cylinders from flat disks, this second operation spinning lathe is available in two models to bulge, neck, bead, wire, flange, curl and trim wide variety of drawn or spun shells. Larger model No. 16 has up to 30-inch swing and 92-inch bed length. Headstock spindles run on Timken bearings at instantly variable speeds. Model No. 15 has speeds of 275, 365, 615 and 1140 revolutions per minute and model No. 16 has speeds of 180, 370, 675 and 1140 revolutions per minute. Lathes weigh 1500 and 3000 pounds respectively.



V-belted motor drive and gear box are fully enclosed. Combination multiple disk friction clutch and brake insure instant stopping and starting. Tailstock has offset adjustment which allows use of inside form rolls to replace sectional chucks. Lateral and longitudinal handwheel control of compound rest provides maximum ridigity for frictionless spinning and burnishing tools. Other attachments include wiring rest operated by tilting lever which can be pivoted to approach work from any desired angle. Standard tilting rest for combination trimming and wiring and special trimming attachments also are available. Made by **E. W. Bliss Co.**, Dept. NED, 450 Amsterdam St., Detroit 2, Mich.

▲ Mention Item NED-2164 when writing ▲



▲ Mention Item NED-2165 when writing ▲

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings.....only **$29.90**

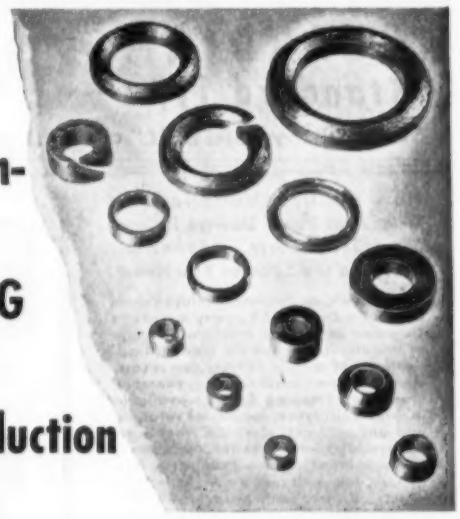
Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 5720 Armitage Ave. • Chicago 39, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

▲ Mention Item NED-2166 when writing ▲

These precision-built PACKING RINGS cut production time



Save time on assembly operations . . . cut production costs . . . with J-M Die-Formed Rings. Custom-made to closely controlled dimensions, these rings are available in almost any flange width desired . . . in a variety of styles and compositions . . . with or without wire insertion . . . lubricated for the specific service. For details, write Johns-Manville, Box 290, N. Y. 16, N.Y.

Johns-Manville PACKINGS & GASKETS

▲ Mention Item NED-2167 when writing ▲

Only the best saw sharpening can give you top-speed production. The Foley Saw Filer quickly puts old saws with dull and irregular teeth back in perfect condition—and keeps them perfect! 25% to 40% increase in production is frequently realized with Foley-filed saws.

ONE machine files cross-cut circular saws, band saws, hand saws.

30 DAY TRIAL OFFER

permits you to use a Foley Saw Filer in your own shop. You can't lose on this offer—write or send coupon.

FOLEY Automatic SAW FILER

FOLEY MFG. CO. 23 - 2nd St. N. E. Minneapolis 13, Minnesota

Please send literature, and details of your **30-DAY TRIAL OFFER.**

Name.....

Address.....

▲ Mention Item NED-2168 when writing ▲

GRAVITY CONVEYORS

Sections—5', 10'; Standard widths—Wheel Type 11½", Roller Type 11½" and 16". Two or more sections may be bolted together for greater widths. We bore the holes and supply bolts and nuts at no additional cost. Curves—5', 8', 12'; 45° or 90°.

WHEEL TYPE
6 to 16 wheels per foot. 10 wheels standard. Odd lengths and different wheel alignments available.

ROLLER TYPE
1 to 5 rollers per foot. 4 rollers standard. 2" diameter rollers. Dust-proof, lubricated for life, ball bearings.

METZGAR "POWER HELPER"
Portable Power Conveyor and Leader.
Model 680—6' Basic unit—available up to and including 10' lengths—8" belt.
Model 812—8' Basic unit—available up to and including 12' lengths—12" belt.
Plug in electric power.

WRITE FOR DESCRIPTIVE FOLDER

METZGAR CO., 414-16 Douglas N. W.
Grand Rapids 4, Michigan

▲ Mention Item NED-2169 when writing ▲

GUARDIAN Standard Type Relays

Solve many "SPECIAL" control problems...

How Multiple Variations of Guardian Basic Design Relays May Transform a Standard unit into the Special You Need.

The Guardian Basic-type relays shown are but a few of the many standard Guardian units which offer a wide range of variations. You get the standard advantages of quicker delivery, lower cost, consistent performance. For example, Guardian's Stepping Relay is available in three basic types: continuous rotation; add and subtract; electrical reset with numerous variations. Series 500 is small, lightweight, offers many contact combinations, has replaceable coil. Series 595 is tiny. Switch capacity up to 10 PDT, 1.5 amp. contacts. Weighs approx. 2 Oz.

SERIES R STEPPER
SERIES 500 RELAY
SERIES 595 RELAY

SEND FOR THIS NEW GUARDIAN CATALOG

Your Copy is Waiting—No Cost, Write

GUARDIAN ELECTRIC
1626-D W. WALNUT STREET • CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

▲ Mention Item NED-2170 when writing ▲

This One Catalog May Give You

1001 IDEAS!

Look over the complete Synthane catalog of technical plastics and you're bound to find an idea or suggestion you can use to your advantage.

Packed with information on applications, grades, properties, sizes, colors, finishes, etc.

Regardless of whether you're now using plastics or not, this booklet will give you valuable help in selecting the right job for plastics—and the right plastics for the job. And it's yours for the asking. Order your copy today.

SYNTHANE
TECHNICAL PLASTICS
SHEETS • RODS
TUBES • FABRICATED
PARTS • MOLDED-LAMINATED • MOLDED-MACERATED

SYNTHANE CORPORATION
Northeast River Road, Oaks, Penna.

Please send me promptly a copy of your complete catalog of Synthane technical plastics.

Name
Name of Company
Title
Address
City *State*

▲ Mention Item NED-2171 when writing ▲

ABRASIVE FINISHING BRICK

Suited for removing form marks from concrete surfaces or leveling insulating brick, Handy-Handle abrasive finishing bricks have selected sharp grains that make them fast and easy to use. Handle is designed and curved for comfortable grip with either hand. Bricks can be used also for rounding edges and for special installation jobs. They can be furnished without handles when specified and are available in 2 x 2 x 6 and 2 x 2 x 8-inch sizes. Made by Clipper Mfg. Co., 2800 Warwick, Kansas City 8, Mo.

▲ Mention Item NED-2172 when writing ▲

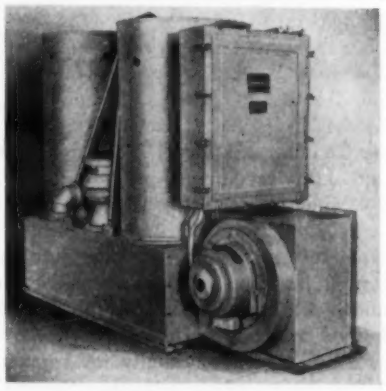
LIQUID GAS VAPORIZER

Employing heat in closed chamber to vaporize liquid petroleum, this industrial vaporizer supplies dry gas to burners and requires but one burner adjustment for entire tank of fuel. It can be operated with either above or below ground level tanks. Vaporizer draws chiefly liquid fuel and tank will not lose pressure or frost up because of heavy withdrawals or draw off propane in butane-propane mixture. Selective control principle relieves unusually heavy demand on vaporizer by withdrawing tank gas as needed. It is claimed that excessive pressures cannot build up in vaporizer or tank and that no liquid can enter vapor line. Made by John E. Mitchell Co., Dallas, Tex.

▲ Mention Item NED-2173 when writing ▲

DEHUMIDIFYING MACHINE

Successfully employed in Navy fleet preservation program, Lectrodryer dehumidification machines are now available for commercial and industrial use as well as in chemical, metallurgical, oil, gas and pharmaceutical fields. Various sizes and types of units are available for continuous removal of moisture and gases from air by means of physical phenomenon known as solid absorption. Engineering service is offered to assist potential users in determining proper type and capacity of machine for specific purposes. Made by Pittsburgh Lectrodryer Corp., 1068 32nd St., Pittsburgh, Pa.



▲ Mention Item NED-2174 when writing ▲

GREAT IDEA

new peelable stickers

to carry { INSTRUCTIONS, WARNINGS, SALES FEATURES, TRADE-MARKS

Manufacturers everywhere are switching to Kum-Kleen Self-Adhesive Labels. Here's why: *They're new, different, far more efficient.* Adhere firmly to *any* smooth surface—metal, plastic, glass, wood, painted or varnished.

Won't dry out, curl, pop or fall off—yet peel off easily in one piece without leaving a trace.

Now—place instructions, warnings, trade-marks, describe finishes and point out features directly on the product at the exact place such data should be carried.

And when they've served their purpose, Kum-Kleen Stickers peel off without scraping—a feature your customers appreciate.

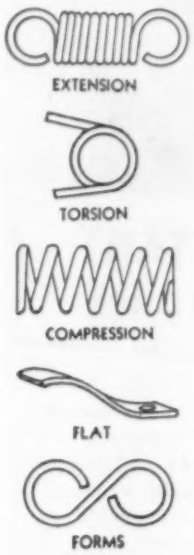
Kum-Kleens are quickly applied *without moistening*—are available in any size, shape or color, printed to your specifications. *Write today for free samples to Dept. NED-4.*

Kum-Kleen
SELF-ADHESIVE LABELS

AVERY ADHESIVE LABEL CORP., 36 West Union Street, Pasadena 1, California; 41 Park Row, New York 7; 608 S. Dearborn St., Chicago, 5, Illinois and principal cities. In Canada, Enterprise Sales, Toronto.

▲ Mention Item NED-2175 when writing ▲

PARAGON Springs



A Complete Spring Service

Coil springs, wire forms, flat springs, brazing rings, of all materials, in any quantity and in special designs are now available at Paragon.

A complete service not only in the manufacture of springs but in engineering and consultation on spring design, is yours for the asking.

A special department has been set up for small orders—so don't hesitate to call on Paragon, whatever your spring requirements.

INQUIRIES GIVEN PROMPT ATTENTION

Now Available—31 Assortment-Stock Spring Booklet

PARAGON SPRING COMPANY
4815 WEST FULTON STREET CHICAGO 44, ILLINOIS

▲ Mention Item NED-2176 when writing ▲

What are your Requirements? FOR CORROSION RESISTANT TUBING

Superior supplies tubing (up to ⅝" OD) in all these analyses of corrosion resistant metals:

Stainless Steels; A.I.S.I. 304, 309, 310, 316, 321, 347, 446, 403, 430, 502.

Beryllium Copper, Nickel, Monel, "K" Monel, Inconel, "Nichrome V," and other Nickel alloys; 36%, 42%, and 52% Nickel Iron.

Some are available in both seamless and WELDRAWN*.

In choosing metal tubing for particular products and conditions it is important to consider the degree of corrosion action to be met, but in addition, the combination of other properties such as formability, high strength at high temperatures, machinability, etc., must dictate the *one proper analysis* to be used.

Our metallurgists and engineers will be pleased to work with you and suggest the analyses and grades of tubing best suited for your particular products and service conditions.

Write for Bulletin No. 31 today.

*U. S. Trademark

See our CATALOG in SWEET'S FILE for PRODUCT DESIGNERS

THE BIGGER NAME IN SMALL TUBING **Superior**

SUPERIOR TUBE COMPANY
2018 Germantown Ave. Norristown, Pa.

▲ Mention Item NED-2177 when writing ▲

Don't BURN Paper CONVERT IT!

AIRFLUFF PAPER SHREDDER MAKES EXCELSIOR OUT OF CONFIDENTIAL PAPERS, BLUEPRINTS OR ANY WASTE PAPER

Here's the machine that destroys paper yet saves it! The AIRFLUFF Paper Excelsior Shredder, easily shreds, separates and fluffs old newspapers, confidential papers, blueprints, magazines, waste paper, corrugated cartons, tissue, Cellophane and waxed paper. Low price, simple to install. Power and maintenance cost less than 2c per 100-pound bale. Absolutely safe—present employees can easily operate. Cuts in widths from ⅛" to ⅜" Model No. 14 shreds 600 to 1800 lbs. per hour. Model No. 10 shreds 200 to 800 lbs. per hour. Write today for prices and complete facts about these remarkably simple, sturdy and efficient new AIR-FLUFF Paper Shredders.

See our insert and listing in Thomas Register.

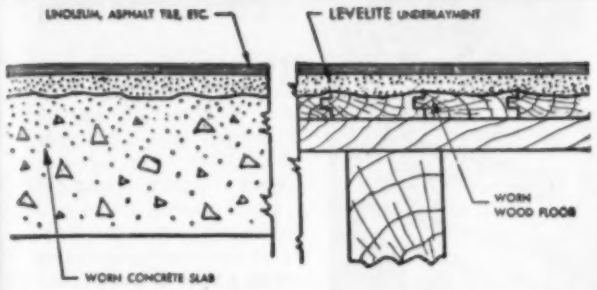
MITTS & MERRILL • SAGINAW, MICH.
1000 SOUTH WATER STREET
BUILDERS OF MACHINERY SINCE 1854

▲ Mention Item NED-2178 when writing ▲

RESILIENT FLOOR-COVERINGS LAST LONGER WITH

LEVELITE

The Perfect Underlayment



IN corridors, lobbies, foyers, offices . . . on stairs and landings . . . wherever the base-floor has been worn, chipped, cracked, or warped . . . LEVELITE should be applied to make the surface even and level before covering with asphalt tile, rubber tile, vinyl tile, linoleum, or carpet.

Worn surfaces, cracks, ridges, and gaps produce harmful effects in visible coverings and the causes are often unseen until too late for remedy.

Write for illustrated folder and name of nearest contractor.

A Floor Crafters Product by

SELBY, BATTERSBY & CO.

Wilford Bldg., 3307 Arch St., Philadelphia 4, Pa.

▲ Mention Item NED-2179 when writing ▲

Reg. U.S. Pat. Off.

UNBRAKO

SCREW PRODUCTS

Save TIME . . . SPACE . . . WEIGHT

The knurled head of the "Unbrako" Socket Head Cap Screw makes it slip- and fumble-proof—even with the oiliest fingers—therefore it can be screwed-in farther and faster before it becomes necessary to use a wrench.

The knurled cup point of the "Unbrako" Socket Set Screw makes it a Self-Locker . . . the point digs-in and refuses to budge . . . regardless of the most chattering vibration. Yet, this screw can be backed-out with a wrench and used over and over again.

The knurled threads of this "Unbrako" Socket Set Screw make it a Self-Locker, too—for Flat, Oval, Cone, Half- and Full-Dog Points.

Millions of these "Unbrako" Screw Products—in sizes from #4 to 1½" in diameter—are being used throughout industry to save assembly time, reduce space required and decrease weight. Write for your "Unbrako" Catalog.

Pats. Pend. Kits:

You can't screw socket screws in or out without a hex socket wrench,—so why not get our No. 25 or No. 50 "Hallowell" Hollow Handle Key Kit which contains most all hex bits.

'Unbrako" and "Hallowell" Products are sold entirely through distributors.

OVER 44 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PA. BOX 581

Branches: Boston • Chicago • Detroit
Indianapolis • St. Louis • San Francisco

▲ Mention Item NED-2180 when writing ▲

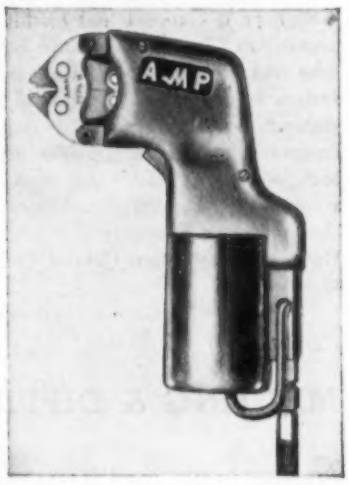
CARBIDE MASONRY DRILL

Designed for rapid and efficient drilling in nonmetallic material such as brick, concrete, marble, slate, tile, stone and glass, these carbide tipped masonry drills are available in

sizes from 3/16 to 1½ inches in diameter. All drills are furnished oversize to provide for clearance in the installation of anchors, expansion bolts and toggle bolts. They are operated by rotation which reduces noice and vibration to minimum. Made by **Chicago-Latrobe Twist Drill Works,** 411 W. Ontario St., Chicago 10, Ill.

▲ Mention Item NED-2181 when writing ▲

SOLDERLESS CONNECTOR TOOL

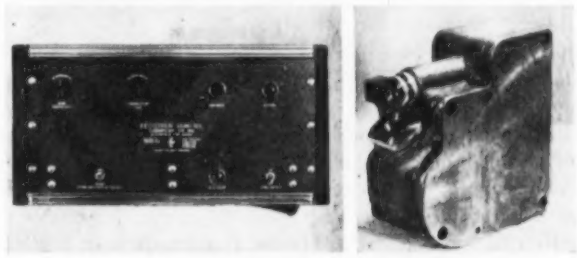


Designed for production line assembly work, this pneumatically operated hand tool will install solderless wire connectors with speed, uniform pressure and precision. Tool provides 2000-pound crimping pressure from air line pressure of 85 pounds per square inch. Tool steel crimping jaws are hardened, resist wear and are readily interchangeable for various types of solderless connectors. Wire sizes from No. 22 to No. 14 can be handled. Control is trigger type and overall weight of tool is such that continuous operation can be maintained without undue fatigue. Made by **Aircraft-Marine Products Inc.,** 1573 N. Fourth St., Harrisburg, Pa.

▲ Mention Item NED-2182 when writing ▲

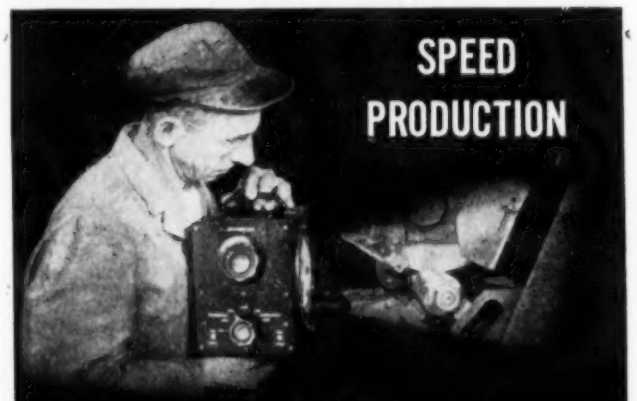
PRINTING CONTROL DEVICE

Providing instantaneous indication and correction of web position while web is traveling in excess of 1000 feet per minute during multicolor printing operation, Registron photo-



electric control device will maintain hairline color register. Unit scans previous printing before paper reaches next impression point. Control is also applicable to cutoff, scoring, perforating and punching operations. Two-way correction is provided and is indicated visually by alternate flashing of indicator lights. Unit is constructed for plug-in replacement. Made by **Champlain Co.,** 88 Llewellyn Ave., Bloomfield, N. J.

▲ Mention Item NED-2183 when writing ▲



SPEED PRODUCTION

With the STROBOTAC you can see any part of a machine in s-l-o-w motion . . . as slow as a fraction of an rpm . . . while the machine is running at its normal speed. There is no mechanical or electrical connection between the equipment under observation and the STROBOTAC. You can measure speed to an accuracy of 1 per cent; then you can make the machine go through its paces and actually see, in slow motion, the results of misadjustments, worn parts, slippage or other mechanical troubles. The STROBOTAC has proven invaluable to thousands of research engineers, designers, maintenance men and salesmen . . . it can help YOU in designing equipment and in keeping it running. Let us show you how!

WRITE FOR "EYES FOR INDUSTRY"

GENERAL RADIO CO.

Cambridge 39, Massachusetts

NEW YORK CHICAGO LOS ANGELES

▲ Mention Item NED-2184 when writing ▲

This Gorton Pantograph with special fixtures mills 30 impeller blades from the solid for a small turbine in 30 minutes with automatic feed and indexing—an example of Gorton Tracer Control milling, duplicating, engraving and electric etching.

1¼" O.D.

Let Gorton Engineering Service provide you with a production estimate on one of your jobs—just send complete description with prints—no obligation.

FREE TRACER CONTROL BULLETIN

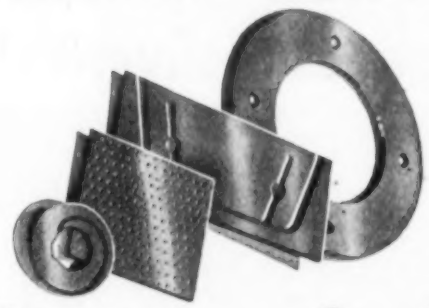
Send for Bulletin 1655 today for full particulars about the Gorton Line.

GEORGE GORTON MACHINE CO.

1904 RACINE ST., RACINE, WISCONSIN

▲ Mention Item NED-2185 when writing ▲

for **WASHER'S THRUST PLATES**



Pre-Cast Bearing **Bronze on Steel** PATENTED

● When you need flat pieces with a bearing surface—try Johnson Bronze-on-Steel. This new and unusual bearing material combines the bearing qualities of bronze with the strength of steel. Available as finished parts, to your specifications . . . or in coils up to 400 feet. Excellent delivery. Write for new description literature.

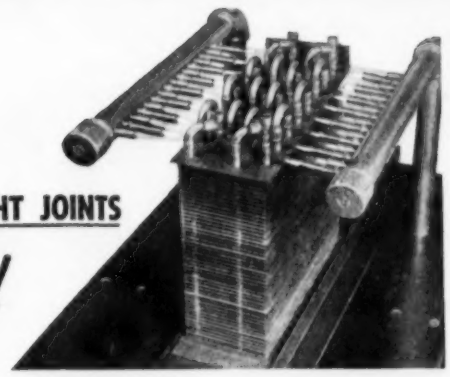
JOHNSON BRONZE

SLEEVE BEARING HEADQUARTERS

580 S. MILL STREET NEW CASTLE, PA.

▲ Mention Item NED-2186 when writing ▲

A Fast, Low-Cost EASY-FLO Production Set-up



32 LEAK-TIGHT JOINTS BRAZED IN 45 SECONDS!

With simple gas-air setup above, the 16 return bends of ⅜" copper are joined to the tubes of the refrigeration unit . . . all at one time . . . all automatically . . . all in 45 seconds. Units are assembled for brazing with rings of 3/64" EASY-FLO wire preplaced at the joints. With assemblies being made ready while others are brazing, production moves along in a steady stream. YOU CAN GET equally fast, economical results with similar mass production procedures. WRITE FOR BULLETIN 12-A. It tells all about EASY-FLO. Ask also for details about the new EASY-FLO 45.

HANDY & HARMAN 82 FULTON ST., NEW YORK

Agents in Principal Cities. In Canada: HANDY & HARMAN of Canada, Ltd., Toronto

▲ Mention Item NED-2187 when writing ▲

A cyclone and a Sly Dust Filter collect dust from grinding and sandblast operations on non-ferrous castings. The Sly Dust Filter is needed to collect completely all the fine dust which the cyclone could not catch.

SLY DUST Collectors

Get ALL the Dust... EVEN THE VERY FINE DUST

It is the *fine dust* which does the damage. The *fine dust* works its way into the bearings and other moving parts of machinery and settles widely over plant and neighborhood.

Only the *fine dust* is injurious to the human body. The coarser particles are stopped by the nose and mouth; only the very fine particles enter the respiratory system.

A combination of a Sly Dust Filter and a cyclone Collector is not uncommon. Often the cyclone does not collect the fine dust. Then a Sly Filter is added to get it all—by filtering the dust-laden air through cloth.

Sly Dust Collectors are not expensive—in first cost, maintenance, operation. Over 5000 installations. Ask for Bulletin 98 and tell us your problem.

THE W. W. SLY MFG. CO. SLY
Pioneers and Leaders in Industrial Dust Control
4748 TRAIN AVENUE, CLEVELAND 2, OHIO

▲ Mention Item NED-2189 when writing ▲

Available for Immediate Delivery

Cuts Handling Costs... Speeds Deliveries!

LAMSON UTILITY CONVEYOR
it's Portable . . . Adjustable . . . Reversible

MAIL the coupon today for folder showing the 101 uses of this handy conveyor. It shows how you can save time and labor in loading and unloading freight cars, trucks and planes . . . in stacking and unstacking cartons in your warehouse . . . how you can increase the travel of your gravity conveyor and feed an overhead conveyor at any point along the line.

Lamson Corporation—a pioneer manufacturer of materials handling conveyors—offers a limited quantity of this guaranteed utility conveyor for immediate delivery.

Helps you load and unload cars and trucks.

Spans dock from warehouse to freight car.

Acts as Booster between two portable, roller gravity conveyors.

SEND COUPON FOR FOLDER

Lamson Corporation
550 Lamson St.
Syracuse 1, N. Y.

Send me, without obligation, your folder and prices on the Lamson Utility Conveyor.

Name.....

Company.....

Address..... State.....

▲ Mention Item NED-2190 when writing ▲

FLAME FAILURE SAFEGUARD

Utilizing photoelectric scanner, Fireye flame failure safeguard is safety device that turns off fuel supply in industrial oil burner installations when flame fails. Equipment consists of type 45PH5 photoelectric scanner for monitoring main oil burner flame and type 24PJ8 programming control for programming oil pump, oil valve and ignition system. Type 45JP1 flame rod can be added to combination if it is desired to monitor gas pilot flame.

Scanner is compact and readily installed in new or existing installation. Scanner contains both phototube and amplifier tube and requires no shielded cable to programming control. System is designed to withstand conditions of relatively high ambient temperature and it is impervious to ambient humidity. Programming control provides accurate setting in seconds of both oil valve delay and post ignition periods. Timing is accomplished through synchronous motor. Relay contacts will handle current necessary to operate 1-horsepower pump motor. Made by **Combustion Control Corp.**, 78 Broadway, Cambridge 42, Mass.

▲ Mention Item NED-2191 when writing ▲

MELTING & DIPPING UNIT

Indirectly heated, thermostatically controlled model No. W40GT Waxmaster melting and dipping unit is suited for heating, melting, dipping and pouring critical compounds such as wax, paraffin, oils, fats, pitch, and Hydrolene as well as battery, transformer, resistor and capacitor compounds. Thermostatic controls will maintain temperature at any desired point from 100 to 550 F in fully insulated tanks that are cool to the touch. Tanks are built on double boiler principle to insure complete uniformity of controlled temperature on all four sides and bottom of inner vat which contains materials to be melted.

Both gas and electrically heated equipment are available. Gas fired units are heated from inside by means of immersion tube system. Electrically heated units are available in 40-gallon sizes and in smaller portable 15-gallon sizes that can be wheeled throughout plant. Both models have 13-kilowatt total capacity. Made by **Aeroil Products Co.**, 5735 Park Ave., West New York, N. J.

▲ Mention Item NED-2192 when writing ▲

A "MARKING BIRD"?
MAY LOOK LIKE THIS

But–

"MARKING SPECIALISTS"

ARE ORDINARY PEOPLE WHO HAVE DEVOTED THEIR LIVES TO MAKING BETTER

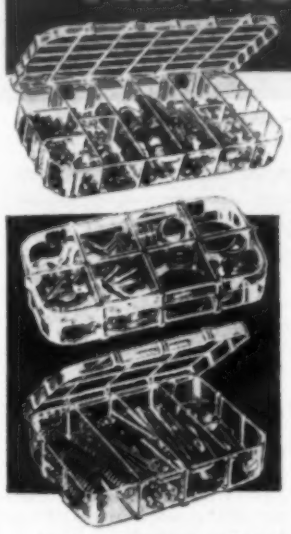
TOOLS AND MACHINES for MARKING

WHATEVER YOUR PRODUCT MAY BE—WE HAVE A TOOL OR MACHINE TO MARK IT. CONSULT OUR ENGINEERING DEPT.

TECHNICAL DATA FREE
WRITE TO—
The ACROMARK Company
7-11 MORRELL ST., ELIZABETH 4, N. J.

▲ Mention Item NED-2193 when writing ▲

Pyra-Shell
REG. U.S. PAT. OFF.
TRANSPARENT
INVENTORY BOXES
FIELD SERVICE KITS
ASSEMBLY BOXES
DEMONSTRATORS



THESE light-weight, tough, transparent boxes can save time and money in countless ways in your plant. They keep valuable parts free from dust and dirt—yet in plain sight so you don't have to hunt for them. Patented ribbed construction makes these boxes sturdy and durable in spite of their light weight. One of the many compartment arrangements available in our standard boxes will no doubt be exactly suitable for your needs. If not, we will be glad to consider a special box. Write today for descriptive literature.

Wide Range of Sizes, Styles and Compartment Arrangements

Address Utility Box Dept. D

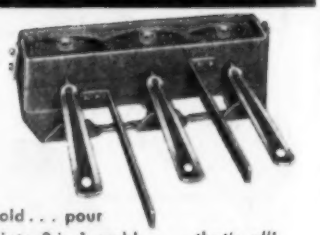
SHOE FORM CO. INC. AUBURN, N. Y.

▲ Mention Item NED-2194 when writing ▲

LEAD

HAMMERS!
YOU MAKE 'EM . . . 3 AT ONCE!

WITH THE NEW COOK PRODUCTION HAMMER MOLD!



EASY to use! Close lid of mold . . . pour lead from lead pot or ladle into 3-in-1 mold . . . that's *all!*

SHUR-GRIP HANDLES — The Cook 3-in-1 Hammer Mold is made expressly for extra safe COOK SHUR-GRIP handles!

A COMPLETE LEAD HAMMER SERVICE

Handles (Shur-Grip) Mold and Ladles (single and 3-in-1 molds) Ready-Made Lead Hammers (in stock from 1 to 11 lbs.)

Ask for complete price list H. Address Dept. 6

LAWRENCE H. COOK, INC.
Successors To The Johnson Tool Co.
65 MASSASOIT AVE., EAST PROVIDENCE 14, R. I.
PLASTIC MOLDS AND TOOLS

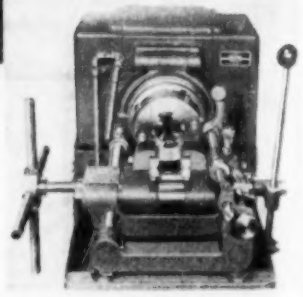
▲ Mention Item NED-2195 when writing ▲

Speed Up Threading

OSTER

No. 531-A "TOM THUMB"
Portable Threading Machine

Designed with rotary die-head and open-type vise for handling wide variety of threading jobs.



Quick-acting, open-type vise (illustrated at right). Stock quickly and easily inserted and removed from machine. Dies are high speed, segmental type, one or more removable without replacing entire set. Die release is automatic with emergency hand trip. Stock stop is adjustable . . . automatic in operation.

Standard range: 1/4" to 1 1/2". Pipe or nipple range 1/8" to 1 1/4. Through the application of special fixtures, No. 531-A machine is adaptable to many kinds of unusual threading jobs. Write for illustrated catalog "LIST 7B".

THE OSTER MANUFACTURING CO.
2066 EAST 61st STREET • CLEVELAND 3, OHIO, U.S.A.

▲ Mention Item NED-2196 when writing ▲

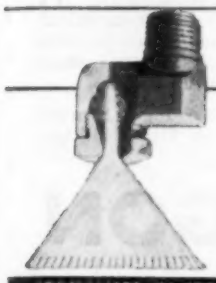
WRITE FOR THIS CATALOG

SPRAY NOZZLES

to improve operations... to lower your costs

A highly specialized engineering experience is at your service, when you call upon Spraying Systems to solve your spray nozzle problems. Spraying Systems Spray Nozzles provide design for top spraying efficiency... plus a range of sizes totalling thousands of standard nozzles for exact selection in terms of capacity and spray characteristics. Write for your copy of Catalog No. 22 for all the facts.

SPRAYING SYSTEMS CO.
4029 West Lake Street • Chicago 24, Illinois



Angle Type WHIRLJET

As an added service Spraying Systems supplies many special body designs for unusual installation requirements. For example, the WHIRLJET spray nozzle shown here produces a standard WHIRLJET hollow cone spray... but it is built for special installation where pipe connection must be parallel to direction of spray. Whatever your requirements, you are invited to make Spraying Systems your source.

SPECIALISTS IN SPRAY NOZZLE DESIGN AND MANUFACTURE

▲ Mention Item NED-2197 when writing ▲

P&H WELDING POSITIONER

Position the Work Not the Operator

Cut Welding Costs 50%

By quick, simple positioning of work for down-hand welding — P&H Positioners spare operators from awkward, uncomfortable positions . . . put an end to slow, costly out-of-position welding . . . permit the use of larger electrodes for faster deposition. They cut costs 50% for many users.

Features of WP-2 Positioner
- 2500 lbs. capacity
- Hydraulic power tilting
- 360° table rotation
- 135° table tilting
- Positive table locking device
- Telescopic elevation
- Manual turning to suit welding speeds
- Large table area with handy slots
- Portable or column-in-floor mounting

Actual comparison of positioned vs. unpositioned welding proves savings. Write for bulletin P2-1 of facts, figures and photos.

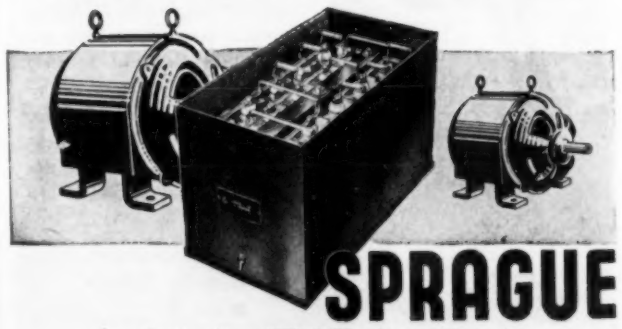
P&H WELDING POSITIONER
4537 W. National Ave., Milwaukee 14, Wisconsin
HARNISCHFEGER CORPORATION

▲ Mention Item NED-2198 when writing ▲

Economical POWER FACTOR CORRECTION . . easily installed at the source

In many cases, it is simpler, cheaper and more practical to solve power factor correction problems by installing Sprague Low-Voltage Box-Type Capacitors at the electrical equipment itself, rather than by a costly exterior high-voltage installation at the transformer bank. Exact needed correction can easily be obtained. Installations can be made quickly as required. Write for Sprague Catalog No. 50 describing the advantages of this method and giving full details of Sprague Industrial Power Factor Correction Capacitors.

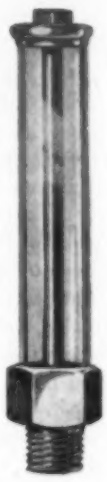
SPRAGUE ELECTRIC CO., North Adams, Mass.



SPRAGUE

▲ Mention Item NED-2199 when writing ▲

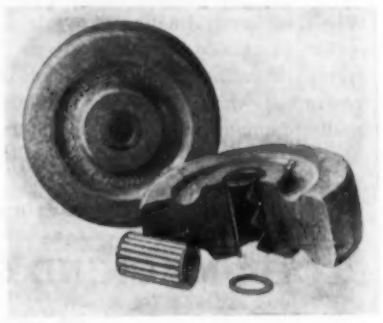
STRAIGHT OIL GAGE



Combining maximum visibility and unbreakable plastic sights, Oil-Rite straight oil gages have range of 2½ to 5 inches and sight diameters of ½ and ⅜-inch. They have ½-inch National pipe thread male fitting. Body is machined from hexagonal bar stock. Heavy central stem and top cap support plastic sight. Independent nut locks unit together and compresses gaskets to eliminate leakage. Removal of top nut makes possible disassembly of gage to facilitate cleaning and maintenance. Full vision from all angles is provided because of absence of protective cover frequently used over glass sight gages. Use of plastic sights also eliminates hazard of broken glass and provides continuous trouble-free service. Gages with special features can be furnished to suit individual requirements. Made by **Oil-Rite Corp.**, 3464 S. Thirteenth St., Milwaukee 7, Wis.

▲ Mention Item NED-2200 when writing ▲

PLASTIC CASTER WHEELS



Floor protecting Durastan Phenolic plastic wheels, previously known as MRK Resinoid, have been added to line of caster wheels. Resistance to oil, grease, mild acids and high and low temperatures makes units adaptable for use on company's materials handling conveyors, power belt conveyors and hand and platform trucks. Nonmetallic composition prevents sparking and permits their use where inflammable conditions exist. Wheels roll easily under heavy loads and resist wear. Made by **Rapids-Standard Co.**, Dept. DC 151, 308 Peoples National Bank Building, Grand Rapids 2, Mich.

▲ Mention Item NED-2201 when writing ▲

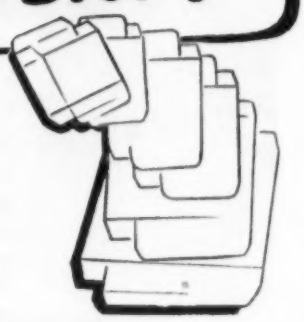
INDUSTRIAL LOUDSPEAKER

Reproduction quality of this model MIL industrial paging and talkback loudspeaker adapts it particularly for paging and announcing in noisy locations where maximum penetrating power is required. Unit is suitable for continuous duty on shipboard, docks, loading platforms, in terminals, yards and industrial plants. Loudspeaker is equipped with reflex air column and built-in hermetically sealed PM dynamic driver.

Continuous power capacity is 5 watts. Dispersion angle is 120 degrees so as to cover wide range of territory. Overall weight of speaker is 3-1/2 pounds and adjustable bracket simplifies mounting and orientation. Diameter of mouth is 6 inches. Made by **University Loudspeakers, Inc.**, 225 Varick St., New York 14, N. Y.

▲ Mention Item NED-2202 when writing ▲

IMMEDIATE DELIVERY!



40 Stock Sizes.
Tuck end tough kraft.
Stocked for immediate shipments.
Sizes range from 1/2 x 1-7/16 inches square to 2 x 7-1/4 inches.
Special cartons, plain or printed, made to your specifications.

•

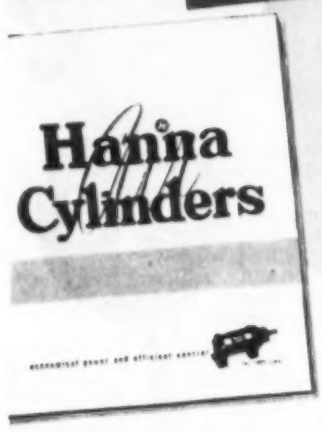
Tags in all grades and colors to your order, printed, numbered, or plain.

Campbell BOX AND TAG CO.
Main & Equipment St.
South Bend 23, Indiana

▲ Mention Item NED-2203 when writing ▲

HERE IS THE INFORMATION YOU WILL WANT ON

AIR CYLINDERS and valves



Hanna CATALOG no. 234

• Complete specifications, dimensions and details on Hanna Low Pressure Cylinders and Valves — and other informative data. For your daily use and file. *Free to executives and engineers. Write for your copy today!*

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT . . . CYLINDERS . . . VALVES . . . RIVETERS
1765 Elston Avenue, Chicago 22, Illinois

▲ Mention Item NED-2204 when writing ▲

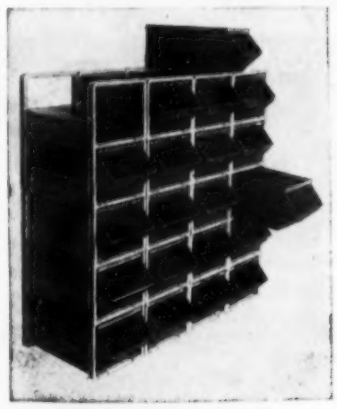
the case of the IMPRISONED HANDS!

No, it's not a mystery thriller . . . but a condition too prevalent in industry today. For when you use stiff, unbending work-gloves, you lose the flexibility that means so much to better work, and personal safety in the installation and maintenance of equipment. • JOMAC Industrial Gloves are built for flexibility as supple as the hand itself. They give up to 7 times the wear of ordinary work-gloves! Write C. Walker Jones Co., 6136 N. Lambert St., Phila. 38, Pa. Plants in Philadelphia, Pa.; Warsaw, Ind.; Detroit, Mich. Foreign Representatives: Gillespie & Co. of New York, Inc., 96 Wall St., New York 5, N.Y.

"SHAKE HANDS WITH SAFETY"
JOMAC INDUSTRIAL GLOVES
THREE TYPES OF JOMAC GLOVES
REGULAR INDUSTRIAL TYPE • HEAT- AND FLAME-RESISTING
SAFETY GAUNTLET-CUFFS

▲ Mention Item NED-2205 when writing ▲

REDUCE HANDLING of Tools, Parts and Materials



STACKBINS are individual hopper-fronted stacking bins, designed for storage, transportation, assembly.

STACKRACKS are individual units which lock together to form racks of any size, shape or capacity. Stackbins slide like drawers in individual Stackracks

Because Stackbins are portable containers — not fixtures — tools, parts and materials can be carried to departments, from machine to machine, or held in stockrooms without being transferred from one container to another. Stored in Stackracks, any Stackbin is instantly accessible when its contents are needed — without disturbing any other bin.

STACKBINS IN STACKRACKS

Manufactured and sold in Canada by Walter H. Wickware, Ottawa

Write Stackbin Corp., 1081 Main St., Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

▲ Mention Item NED-2206 when writing ▲

You know how tight with APCO TENSION DRIVER

$5.95

Here's the driver you've been waiting for . . . a rugged, fool-proof, ratchet-free torque tool that'll save you many an hour on scores of different assembly jobs. Broken screw days are over when you use APCO.

Just check the safe load on the free chart supplied with every driver and go to work. Four big, easy-to-read brass dials let you see the exact torque from *any* position.

Every driver supplied with three fine tool steel heads to adapt the driver instantly to slotted, Phillips or ¼" socket drives.

Send for descriptive circular today . . . or better still, order one and see for yourself now the easy way this *new* APCO TENSION DRIVER saves you time, material and accidents.

No. B-25. O-25 inch pound. Length 12". Weight ¾-lb. Non-slip, non-chip, non-conductor handle.

APCO MOSSBERG CO.
Attleboro, Mass. U. S. A.

▲ Mention Item NED-2207 when writing ▲

Dropped by parachute • Protected by tufflex

This delicate radiosonde—wartime weather-recording instrument—was protected both from freezing temperatures and the shock of parachute landing by *one* material—Tufflex! For this flexible felted wood fibre material has high resistance to impact—and is an efficient insulator as well. Now available to industry, Tufflex is amazingly resilient, yet sturdy and dependable. Stands up under punishment—doesn't shred or pull apart easily . . . is soft, non-irritating and non-abrasive—deadens sound. Tufflex is obtainable in moisture-resistant, flameproof and moldproof forms. It is easy to fabricate, cuts to any size or shape. Get the whole Tufflex story—write Wood Conversion Company, Dept. 127-4 First National Bank Building, St. Paul 1, Minnesota.

tufflex MADE BY THE MAKERS OF *Balsam-Wool*

▲ Mention Item NED-2208 when writing ▲

Modernair CUSHION TYPE *Air Cylinders*
WITH INTERCHANGEABLE MOUNTING BRACKETS

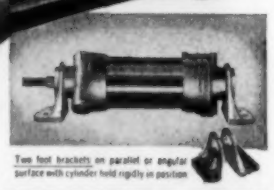
AVAILABLE FROM STOCK

IN 5 DIAMETERS

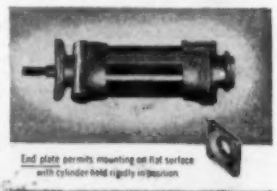
Modernair cushion type cylinders serve many and varied actuating needs in the application of "Controlled Air Power." Compact . . . positive cushioned action . . . diversified mountings . . swivel heads for simplified installations . . "O" ring packing . . rugged construction . . ease and low cost of servicing

CV SERIES—4 WAY VALVES . . . hand, foot or pilot operated . . . fully balanced . . . ¾" and ⅜" sizes.

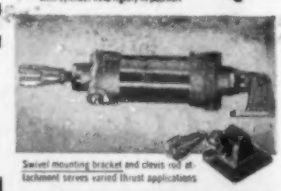
AUTO - FILTER - LUBRICATOR—cleans the air and automatically lubricates cylinder . . .



Two foot brackets on parallel or angular surface with cylinder held rigidly in position



End plate permits mounting on flat surface with cylinder held rigidly in position



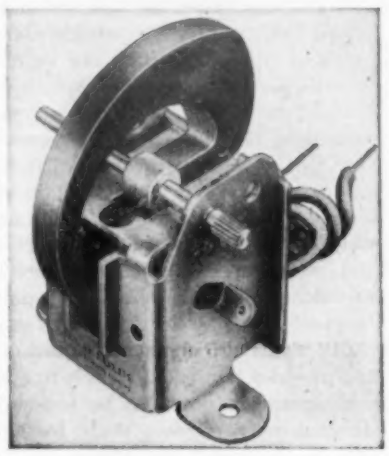
Swivel mounting bracket and clevis roll attachment serves varied thrust applications

WRITE FOR FOLDER

Modernair CORPORATION
4222 HOLLIS STREET • OAKLAND 8, CALIFORNIA

▲ Mention Item NED-2209 when writing ▲

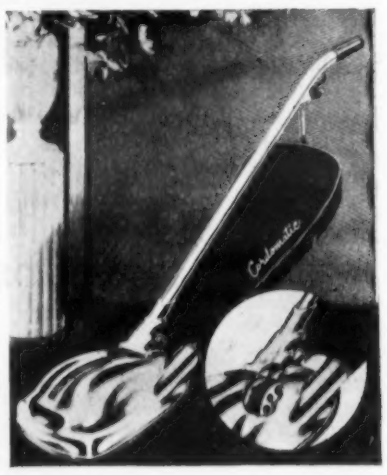
ROTARY SOLENOID



Rotating through 180 degrees, Rotonoid power device operates as solenoid but produces torque instead of thrust. Connecting linkages are unnecessary. Armature is designed to maintain constant heavy duty torque throughout entire 180-degree travel. Originally designed for operation of radio tuning units in automobile receivers, this unit has wide application in industry, ranging from operating of electromagnetic valves to actuating adding and calculating equipment. Unit is self-contained, measures 2½ x 2⅝ x 3¼ inches and weighs 10 ounces. Standard motors have torque of 16 inch-ounces and can be operated continuously at 20 cycles per minute without exceeding safe temperature. Where more rapid action is required, device can be used at 60 cycles per minute for periods up to 12 minutes on 115-volt, 60-cycle alternating current. It can be equipped with current interrupter which operates automatically at stroke completion, holding temperature rise to minimum. Relay attachment for this purpose is available. Made by **Radio Condenser Co.**, 1 Davis Ave., Camden, N. J.

▲ Mention Item NED-2210 when writing ▲

FLOOR MACHINE CORD REEL

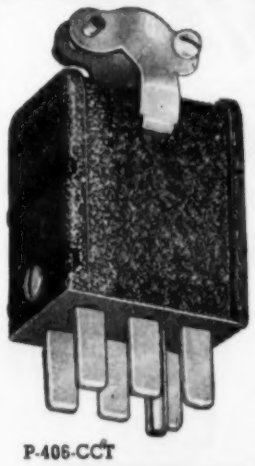


Incorporating cord reel and handle, Cordmatic reel unit eliminates unnecessary trailing of electric cord from all types of floor maintenance machines. Reel unit is enclosed entirely within tail section of machine head casing. In use, cord is paid off reel through opening in machine casing through pivotally mounted bail and up through tubular handle, emerging through outlet at operator's finger tips. This affords operator means of control over length of cord extending from machine and also protects cord at most vulnerable points. Because cord emerges at high point of handle, danger to both cord and operator is eliminated. Cord can be retracted onto reel by flick of finger. Cord lengths up to 30 feet can be accommodated on reel.

Tangent type Cordmatic handle (not illustrated) is self-contained detachable handle unit adaptable to practically all floor type vacuum cleaners and similar floor maintenance machines. It requires recess only in machine head body for pivotal mounting. Made by Cordmatic Div., **Vacuum Cleaner Corp. of America**, 1724 W. Indiana St., Philadelphia, Pa.

▲ Mention Item NED-2211 when writing ▲

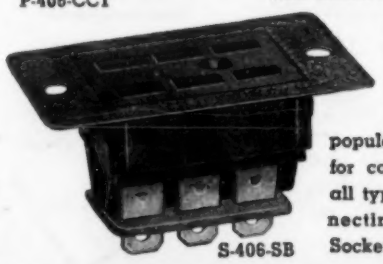
JONES 400 SERIES PLUGS AND SOCKETS



P-406-CCT

A medium size Plug and Socket that fulfills practically every requirement in the Public Address, Radio and kindred fields. Socket Contacts are of the "knife-switch" type of phosphor bronze, cadmium plated.

Plug Contacts are of hard brass, silver plated. Insulation is of molded Bakelite. All Plugs and Sockets are Polarized. Caps are of steel with baked black crackle enamel.



S-406-SB

Made in 2, 4, 6, 8, 10 and 12 Contacts.

The best all around Plug and Socket at popular prices. Send today for catalog No. 14 listing all types of Electrical Connecting Devices—Plugs, Sockets and Terminal Strips.

HOWARD B. JONES DIVISION
CINCH MFG. CORP.
2460 W. GEORGE ST. CHICAGO 18

▲ Mention Item NED-2212 when writing ▲

THE HAND CLEANER THAT DISSOLVES DIRT

Klengon dissolves dirt and grime imbedded in the pores and lines of the hands . . . hard or soft water does the rest. Asphalt and pitch wash away as readily as paint. Klengon contains no abrasives or corrosive liquids. It's easy on the hands and economical . . . because it contains no inactive ingredients it goes further than ordinary paste hand cleaners.

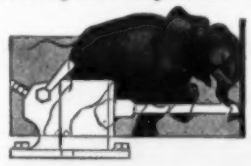
TRY A FREE SAMPLE! Write today to Samuel Cabot, Inc., 1426 Oliver Bldg., Boston 9, Mass.

KLENGON

▲ Mention Item NED-2213 when writing ▲

Boost Output with MEAD WORK FEEDERS
Feed Work Fast to Drill or Tap!

As-fast-as-you-step-on-a-button the sensational new Mead pneumatic WORKFEEDER delivers, holds, ejects small parts to be drilled, reamed or tapped. Accommodates stampings, castings, screw machine parts, etc. Adjustable to sizes up to 3". Foot or automatic control; operator's left hand is free to keep hopper loaded. Write for new Mead AIR POWER Catalog describing "Mead Family" of air operated fixtures and devices.



MEAD SPECIALTIES COMPANY
4114 North Knox Avenue
Dept. NA-47 • CHICAGO 41, ILL.

▲ Mention Item NED-2214 when writing ▲

Automobile Industry Overwhelmingly Selects
STURTEVANT TORQUE WRENCHES

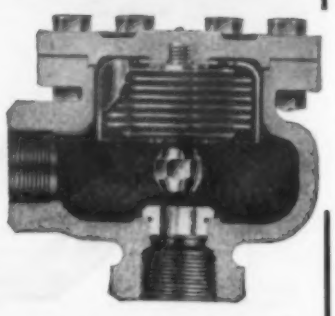
In the production of the vast majority of automobiles today, Sturtevant Torque Wrenches are extensively used where assembly of threaded parts must be accurately held to predetermined torque specifications.

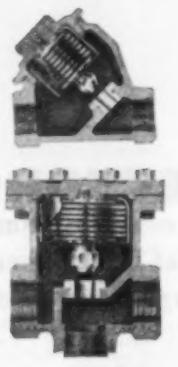
Sturtevant Sensory Torque Wrenches are permanently accurate—they are fast because operation is by reflex action which is faster than thought. They offer a proven and inexpensive means for bettering the quality, performance, and life of products of many types.

Write for Bulletin No. 12

▲ Mention Item NED-2215 when writing ▲

TRY THIS FOR SIZE OF *Discharge*





2 TO 6 TIMES GREATER
Drainage Capacity is Advanced Feature of
NICHOLSON STEAM TRAPS

Put a Nicholson trap on a line and test their greater discharge. We'll gladly send one on trial.

Types for Every Purpose

Five types; size 1/4" to 2", pressures to 225 lbs. BULLETIN 544 or see Sweet's.

W. H. NICHOLSON & CO. 162 OREGON ST. WILKES-BARRE, PA.

▲ Mention Item NED-2216 when writing ▲

Reduce dressing time by two-thirds! Operate at temperatures above red-heat!

Cut down your resistance welding or brazing costs! Speed up your work! On a typical high temperature job where ordinary carbons were changed hourly, Stackpole Carbons processed with our new "F" treatment lasted all day! Three to four times longer life on the average elevated temperature job is an extremely conservative estimate of the saving involved. And they require dressing only about one-third as often!

STACKPOLE CARBON CO., ST. MARYS, PA.

STACKPOLE

WRITE FOR SAMPLES
State shape and size required. Mention company connection.

"EVERYTHING IN CARBON BUT DIAMONDS"

▲ Mention Item NED-2217 when writing ▲

ONE MINUTE AFTER IT'S APPLIED

Here at last! The perfect floor repair material. Use it for a complete floor resurfacing job or a single patch. Your trucks roll while it is being installed. Sets instantly—no interference—no delay. Comes pre-mixed, ready to use. Merely prime, tamp or roll, and let the traffic move. **That's all there is to it.**

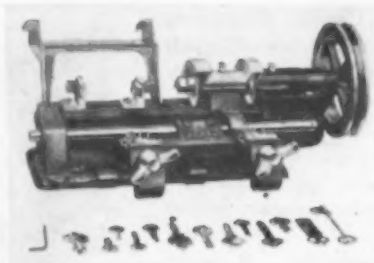
SWIFT FLOOR supports loads of 25 tons. Lasts for years. Skid-proof, fireproof, resilient, self-healing. Any average workman can apply it. Write for full information—or better yet order a drum. It's unconditionally guaranteed. You take no risk! A wire brush and tamper included with your first order.

THE MONROE COMPANY, INC.
10705 Quebec Ave. Cleveland 6, Ohio

SWIFT-FLOOR USERS COMPRISE THE BLUE BOOK OF AMERICAN INDUSTRY. JOIN THEM!

▲ Mention Item NED-2218 when writing ▲

KEY DUPLICATING MACHINE

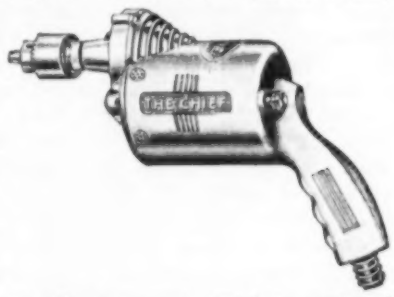


Keys for door locks, padlocks, lockers and automobiles can be made easily and rapidly with this Segal key duplicating machine. Operation is simple and single machine is capable of making keys for any type of lock. Rectifying feature assures accurate reproduction of all keys. Made by **Norwalk Lock Co.**, 395 Broadway, New York 13, N. Y.

▲ Mention Item NED-2219 when writing ▲

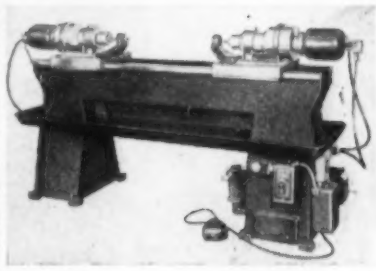
PORTABLE ELECTRIC DRILL

Suitable for wide range of production, maintenance and repair applications, model 63 Chief portable electric drill weighs 3¾ pounds. Equipped with three-jaw Jacobs chuck, tool will drill holes up to ¼-inch diameter in steel and up to ½-inch diameter in wood. It is equipped with comfortable pistol grip and has easily accessible finger tip switch. It has free speed of 2000 revolutions per minute and operates on 110-volt alternating or direct current. Tool is equipped with 12 feet of rubber covered cable and sells for $39.50. Made by **Chicago Precision Machine Co.**, 920 S. Michigan Ave., Chicago 5, Ill.



▲ Mention Item NED-2220 when writing ▲

AUTOMATIC CENTERING UNIT



Work pieces up to 36 inches or longer can be centered with precision automatically on this Robotrill automatic cycle centering machine. Two-way drilling can be performed when machine is not in use on centering operations. Either general or special work fixtures are employed to adapt machine to required work.

Micrometer adjustment of spindle and depth control to within 0.002-inch are features which assure precise, clean bottom holes. Even pressure is applied to spindle during work stroke by centrifugal force of positively driven balls. There is no shock when spindle is released. Entire centering cycle is fully automatic.

Self-contained heads, which also are available as separate units, incorporate standard motors and precision ball bearings throughout. Since all parts in head are keyed together, only the rear thrust bearing and front spindle bearing are subject to wear. Tool breakage is held to minimum and production is high. Distributed by **Klatt & Wood Co.**, 329 Twentieth St., Toledo, O.

▲ Mention Item NED-2221 when writing ▲

MECHANICAL MUSCLES
FOR EVERY LIFTING AND CARRYING JOB

Install PORTELVATOR. The Hamilton portable elevating table. One man can safely lift and carry loads previously requiring the strength of four.

Raises, lowers, transports. Three table surfaces. Accessible from four sides. Four point support. Standard model capacities, 1,000 to 5,000 pounds. Special models built on order.

Write for Bulletin P-47

THE *Hamilton* TOOL COMPANY
SUPER SENSITIVE DRILLING MACHINES · TAPPING MACHINES · PORTELVATORS
901 HANOVER STREET • HAMILTON • OHIO • U • S • A

▲ Mention Item NED-2222 when writing ▲

Cleaner Air for Faster Production! with TORNADO

SPEED UP output, improve quality, protect employe health, with TORNADO Dust Collectors. Efficient in collection of fine dusts from buffing, grinding, polishing, etc. Large filter area. Models for a wide range of requirements.

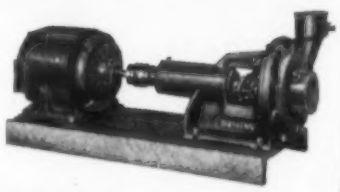
DUST COLLECTORS
Request Folder

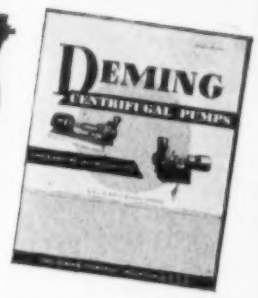
BREUER ELECTRIC MFG. CO.
5106 N. Ravenswood Ave., CHICAGO 40, ILL.

TAKE THE DUST OUT OF INDUSTRY
CLEAN UP – SPEED UP with
TORNADO
EFFICIENT DUST COLLECTORS

▲ Mention Item NED-2223 when writing ▲

NEW Side Suction Centrifugal Pumps





Designed for a wide scope of services, this new line of Deming Centrifugal Pumps includes three types: Single Ball Bearing with Open Impeller; Two Ball Bearing with Open Impeller; and Two Ball Bearing with Semi-enclosed Impeller. (The latter is illustrated above.)

The entire line is standardized and covers the capacity range from 2 to 200 GPM.

NEW BULLETIN No. 3900-B

Construction features are fully explained in this new Bulletin which also includes Performance Tables on the standard sizes of ½, ¾, 1, 1½, and 2 inch side suction pumps. Write for your copy of this new *Bulletin No. 3900-B*.

THE DEMING COMPANY
246 BROADWAY • SALEM, OHIO

DEMING THE COMPLETE LINE
PUMPS AND WATER SYSTEMS

▲ Mention Item NED-2224 when writing ▲

"I Wouldn't Be Without My WALTON TAP EXTRACTORS"

That's what you hear from the machinist who has been beset by the annoying (and frequently expensive) mishap of the broken tap and has found the solution in the use of the simple, effective, safe Walton Tap Extractors.

Informed shop men everywhere are making sure the tool crib is stocked with a full set of Walton Extractors to assure the removal of broken taps without injury to expensive pieces of work.

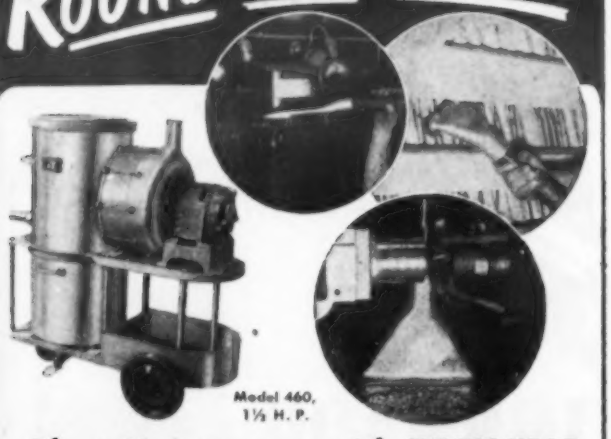
Write for Folder No. 26 and the details of our 30-Day Free Trial Offer. Prices of popular sizes, $1.50 to $2.20 each.

IMMEDIATE DELIVERY

THE WALTON COMPANY
94 ALLYN STREET, HARTFORD, CONN.

▲ Mention Item NED-2225 when writing ▲

ROUND-THE-CLOCK



Plant Maintenance with INVINCIBLE

HUNDREDS of Invincible Vacuum Units are serving continuously, 24 hours a day, month after month. These rugged, powerful machines collect dirt, litter and scores of industrial materials—thus speeding production, reducing rejects, and improving morale. They clean floors, walls, beams, tool bins, switchboards, machines and other hard-to-reach spots. Many models from ½ H.P. up.

ASK FOR THE "100,000" BULLETIN

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

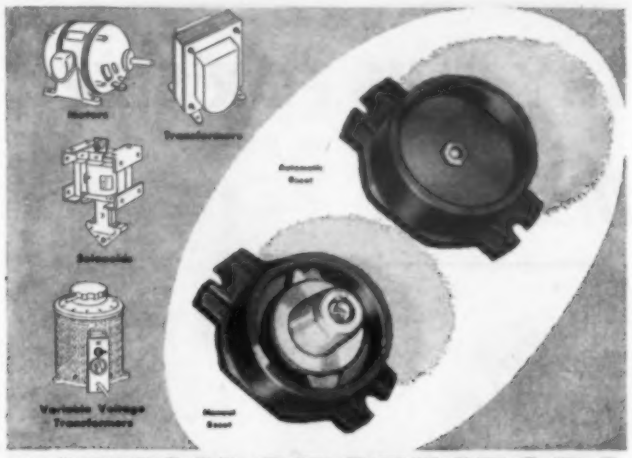
▲ Mention Item NED-2227 when writing ▲

IMPELLER TYPE PUMP

Capable of handling wide variety of liquids in medium flow and pressure field, No. 4702 pump has components fabricated from appropriate corrosion resistant materials for any specific application. Rotating impeller is designed to float hydraulically in housing so that there is no metal-to-metal contact between rotating and stationary parts. Even short periods of running dry will not impair performance appreciably. Liquid will flow through pump when it is not operating, thus eliminating need for by-pass or relief valve for certain applications.

Mechanical face type shaft seal separates pumping chamber from permanently lubricated ball bearing. When pumping water at room temperature, capacity of standard unit is approximately 100 gallons per minute with no discharge pressure. When discharge flow is completely restricted, shut-off pressure is approximately 200 pounds per square inch. Flow is from 50 to 60 gallons per minute in general use where 100-pound per square inch discharge pressure is encountered. Other pressure and volume requirements can be met. This performance requires shaft speed of 3450 revolutions per minute, either direct or belt driven. Output is proportionately lower at lower driven speeds. Illustrated pump is mounted directly to end bell of electric motor. Made by **Candler-Hill Corp.**, 405 Midland Ave., Detroit 3, Mich.

▲ Mention Item NED-2230 when writing ▲



KLIXON PROTECTORS

Assure Longer Operating Life and Less Maintenance by Eliminating Burnouts of Transformers, Motors, Solenoids, Variable Voltage Transformers

Because Klixon Protectors safeguard electrical equipment by preventing burnouts, they assure dependable, trouble-free operation and permit equipment to operate safely for its full life expectancy.

Installed in transformers, motors, solenoids, variable voltage transformers and similar apparatus, Klixon Protectors assure safe over-heat protection. Because they are built in by the equipment manufacturer, they are matched to the thermal characteristics thereby assuring maximum output without danger. Harmless momentary overloads do not cause nuisance tripouts.

Specify and insist that manufacturers include Klixon Protectors on the equipment you buy and use. Write for information.

KLIXON

Spencer Thermostat Company, 1904 Forest St., Attleboro, Mass.

▲ Mention Item NED-2233 when writing ▲

VOLTAGE & CURRENT METER

Serving as compact source of metered, continuously adjustable, alternating current voltage, Voltbox unit can be used for wide range of diversified applications. Three ranges of output voltage and two ranges of output current are available. Variable voltage and current feature is achieved by two variable transformers operating in conjunction with auxiliary transformers. Voltage and current are varied independently and are electrically isolated from each other.

For metering purposes, triple range voltmeter and double range ammeter are supplied. When measurement of external voltages and currents is required, these meters can be employed by throwing lever-action switches located below each meter. Circuit has been designed to permit use of instrument on either 115 or 230-volt 50/60-cycle power line. Output voltage ranges are 0 to 30, 0 to 150 and 0 to 300 volts. Current ranges are 0 to 5 and 0 to 20 amperes. Circuit breaker provides instrument protection. Made by **Superior Electric Co.**, 293 Church St., Bristol, Conn.

▲ Mention Item NED-2231 when writing ▲

MADE TO ORDER

For special flat metal or odd shaped parts as shown, we maintain a special department where such parts are built to your specifications.

Pressed and sheared to exact dimensions, with smooth edges. Odd shaped parts reproduced faithfully from sample or sketch.

Special equipment and 72 years of experience assure satisfaction.

The Torrington Company
SPECIALTY DEP'T.
Torrington, Conn., U.S.A.

▲ Mention Item NED-2228 when writing ▲

Get SELF-CONTAINED POWER FOR HYDRAULIC CIRCUITS

USE *"LOGAN"* HYDRAULIC **POWER UNITS**

- *in your plant*
- *on your products*

MODEL 8036

When hydraulic actuation is required on your product . . . or in your own processing plant . . . self-contained Logan Hydraulic Power Units will supply a continuous smooth flow of oil to provide an infinite power range from 0.32 to 47 gallons per minute, at working pressures to 1000 p.s.i.

Positive, uniform, controlled pressure is maintained by a high-pressure hydraulic pump driven by a standard electric motor. Pump, relief valve and piping are completely enclosed for protection. All parts are accessible without disturbing piping.

The unit is quickly and easily installed by making two simple pipe connections. Its compact design requires a minimum of space and harmonizes with modern machine styling.

Typical uses:

- Movements of machine tables.
- Operation of indexing devices.
- Actuation of work-holding fixtures.
- Operation of small and medium size presses.
- Pushing, pulling, clamping, holding, pressing, lifting and other movements in any direction.

Logan SAVES ★TIME ★EFFORT ★MOTION

Air and Hydraulic Equipment

LOGANSPORT MACHINE CO., INC. 908 Center Ave. Logansport Indiana

SHEARS • CYLINDERS • VALVES • PRESSES • SURE-FLOW COOLANT PUMPS

FREE catalogs—Write for literature covering items in the Logan line in which you are interested.

▲ Mention Item NED-2234 when writing ▲

STAINLESS TUBING DATA

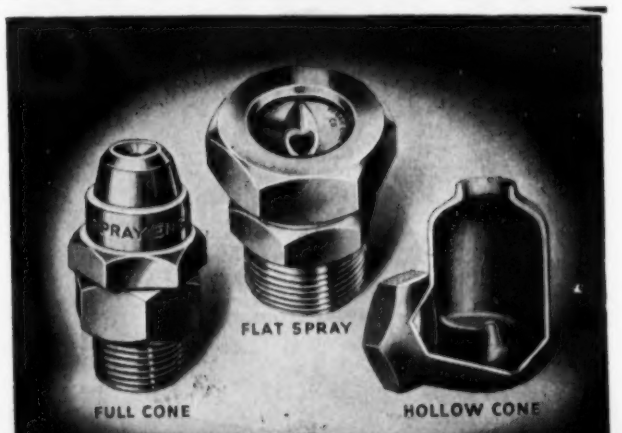
on
- Velocity Constants
- Mass Velocity Constants
- Cross Sectional Areas of I. D. and O. D.
- Sq. Ft. Internal and External Surface Per Lineal Ft.
- Physical Properties
- Available Sizes

Return the coupon today for your Carpenter Stainless Tubing Slide Chart.

THE CARPENTER STEEL COMPANY
Welded Alloy Tube Division • Kenilworth, N. J.

NAME _____ TITLE _____
(Please Print)
COMPANY _____
(Firm Name Must Be Given)
ADDRESS _____
CITY _____ ZONE _____ STATE _____

▲ Mention Item NED-2229 when writing ▲



SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

▲ Mention Item NED-2232 when writing ▲

Air Power

MAKES POWER PRESSES OUT OF KICK PRESSES

NP Kick Press Kit

★ Increased production with decreased operator fatigue ★ Every stroke uniform ★ Safe for use by inexperienced operators ★ Easily installed by average mechanic...*Write for bulletin DC-26*

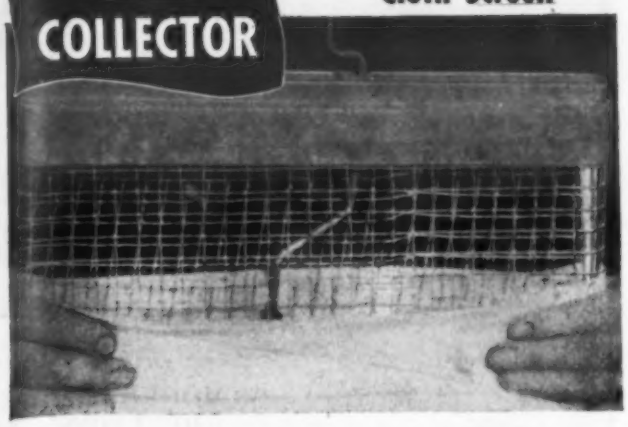
CHOICE OF CONTROLS
N. P. push button valves or the N. P. foot valve can be supplied.

NATIONAL PNEUMATIC COMPANY
INDUSTRIAL SALES DIV., RAHWAY, N. J.

Pneumatic Specialists Since 1904

▲ Mention Item NED-2235 when writing ▲

DUST COLLECTOR with Non-Collapsible Cloth Screen



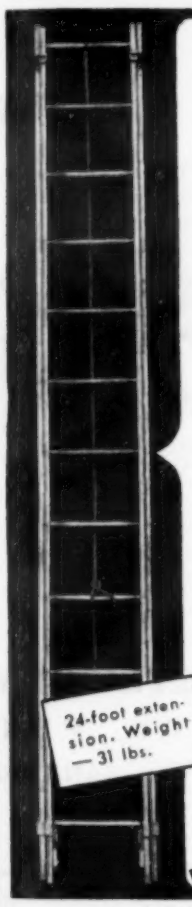
You can be sure you won't be troubled by collapse of the cloth screen when you put your dust control problems in the hands of a Pangborn "CH" Collector. The all-steel, rust-proof wire mesh frame uniformly supports the cloth bag so that it cannot sag – no chance for sides to touch with resultant reduction in filtering area and increased resistance to air flow.

It's a Pangborn exclusive – described in free 28-page Bull. 909A, giving complete story on Pangborn equipment which has successfully solved dust problems in over 9,000 installations. Address Pangborn, *world's largest manufacturer of dust control and blast cleaning equipment* at 294 Pangborn Boulevard, Hagerstown, Maryland.

Pangborn DUST CONTROL

TURNS DUST LOSSES INTO PROFITS

▲ Mention Item NED-2236 when writing ▲



WELDED MAGNESIUM LADDERS

SAVE LABOR COSTS

One-man ladders of lightweight magnesium save time, labor and handling charges . . . are stronger, yet weigh less than half as much as wood.

REDUCE ACCIDENTS

Expertly welded and rigidly tested . . . never become loose or unsteady . . . cannot splinter, scratch or break suddenly if overloaded . . . hold many times the weight of wood.

WEAR LONGER

Weather-proof, warp-proof, rust-proof, fire-proof. Withstand more abuse and outwear any number of ordinary ladders. Welded construction remains rigid for life of ladder.

AVAILABLE NOW!

8-, 10-, 12-, 14- and 16-foot straight . . . 24-foot extension ladders.

For complete prices and specifications, phone your distributor or write Dept. L-1

24-foot extension. Weight — 31 lbs.

WHITE LIGHT LADDERS

WHITE AIRCRAFT CORP., PALMER, MASS.

▲ Mention Item NED-2237 when writing ▲

7 Reasons Why PANNIER STEEL STAMPS Give Better Results for Longer Time

1. Rounded heads distribute hammer blows more evenly. Better impressions; less "mushrooming".
2. Size of the character is stamped on the front for your convenience.
3. Identification is easy because the letter or figure is plainly marked on front of each stamp.
4. Guarantee. The "Master Marker" trademark assures replacement should any stamp be defective.
5. Rounded edges on shank make Pannier Steel Stamps comfortable to use.
6. Fillet where character and background meet. This means longer life, less replacement expense.

The seven points of superiority described here mean clean, legible, better marking for longer time. Pannier Stamps are made from the best available tool steel. Each stamp is individually tested under conditions simulating actual service. Write for complete listing of styles and sizes.

Steel Stamps, Dies; Embossing Equipment; Metal Tags; Stencils; Rubber Type, Stamps, Dies; Marking Inks

7. Bevels. Characters beveled at proper angles for clear stamping, longer life. Extending outside bevel beyond inside bevel prevents breakdown of character face.

MASTER PANNIER

PANNIER BROS. STAMP CO.
207-209 SANDUSKY ST.
PITTSBURGH 12, PA.

▲ Mention Item NED-2238 when writing ▲

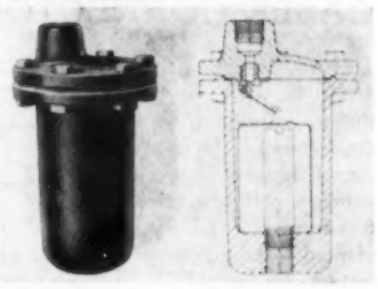
FLOCK SPRAY KIT

Blower gun, undercoat, ivory and brown flock, brush, thinner and instruction sheet are incorporated in this flock spray kit. Inexperienced operators can use kit and produce good flock finishes. Kit and equipment can be used to apply flock coatings on phonograph turntables, cabinets, grilles, instrument cases, tool boxes, toys, ornaments and signs. Gun distributes flock evenly and blows each fiber into undercoat vertically. Coats of varied softness and density can be obtained by varying amount of flock applied. Made by **General Cement Mfg. Co.**, 919 Taylor Ave., Rockford, Ill.

▲ Mention Item NED-2239 when writing ▲

FORGED STEEL STEAM TRAP

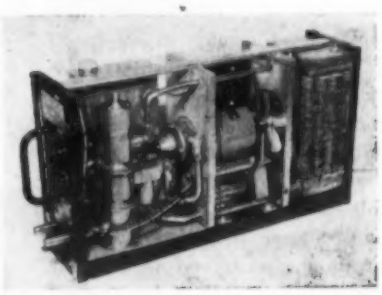
Embodying basic Armstrong inverted bucket and free-floating valve lever design, small all-steel steam trap handles pressures up to 250 pounds per square inch. Body and cap are steel forgings. Internal operating mechanism including valve seat is stainless steel. Trap measures 4½ inches in diameter at cap and overall height is 7 inches. Capacity averages 900 pounds of condensate per hour under continuous discharge. Applications include high pressure service in power plants, steel mills, chemical plants, oil refineries and other process industries. Made by Armstrong Machine Works, 819 Maple St., Three Rivers, Mich.



▲ Mention Item NED-2240 when writing ▲

HEAT TRANSFER UNIT

Capable of dissipating up to 1000 watts, this model No. 1 heat transfer unit can be used in connection with television, radar, short wave communications, high pressure mercury lamps, power tubes, induction heating units and laboratory testing apparatus. Transfer unit is equipped with four-bank radiator, cooling fan, circulating pump, reservoir, flow switch, thermostat and necessary fittings.



Motor is rated 1/40-horsepower and fan and pump are mounted on opposite ends of motor shaft. Unit is encased in sheet metal cabinet which has black crackle finish. Motor operates at 3450 revolutions per minute on 110-volt alternating current and is of induction type. Made by Eastern Industries, Inc., New Haven 6, Conn.

▲ Mention Item NED-2241 when writing ▲

OHIO ROUND WELD PADS

These steel pads have projections for anchoring to sheet steel, using standard Press Welders.

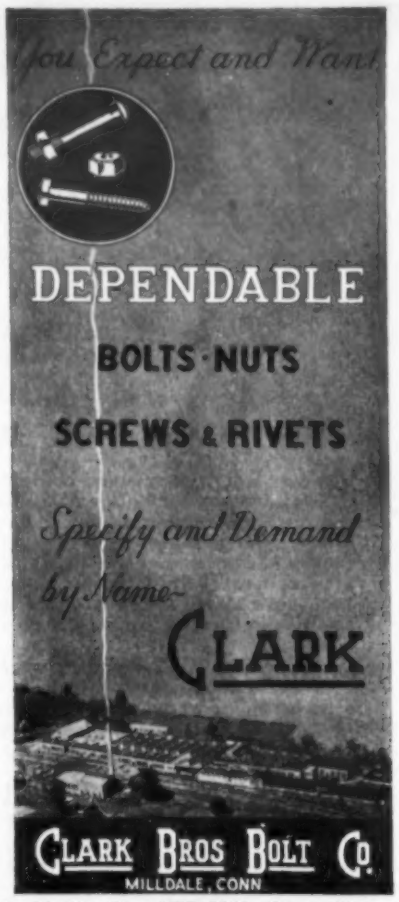
Production Sizes:

Dia.	Thickness	Dia.	Thickness
3/8	1/8	5/8	1/8
3/8	5/32	5/8	3/16
3/8	3/16	5/8	1/4
1/2	3/32	5/8	5/16
1/2	1/8	3/4	1/8
1/2	5/32	3/4	3/16
1/2	3/16	3/4	1/4
1/2	1/4	1	1/8
9/16	1/4	1	3/16
		1	1/4

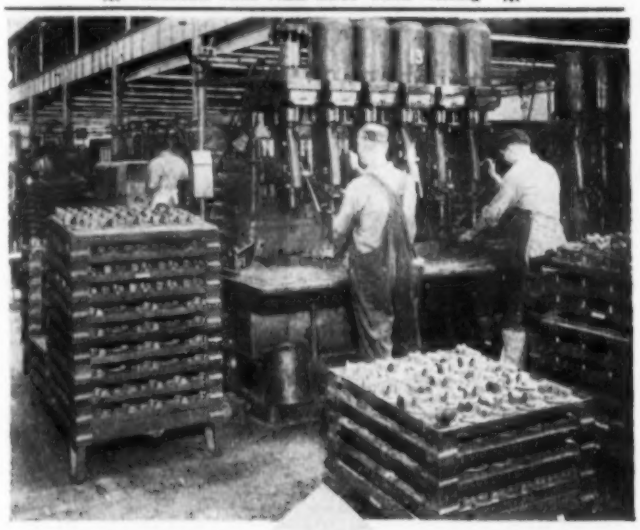
For information and samples, write to

THE OHIO NUT & BOLT COMPANY
608 FRONT STREET, BEREA, OHIO

▲ Mention Item NED-2242 when writing ▲



▲ Mention Item NED-2243 when writing ▲



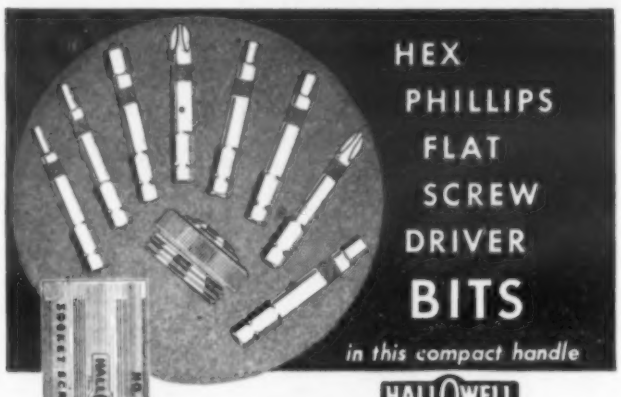
Here's how one department of the General Electric Company reduces handling costs on one of their modern production lines. Semi-live skids are conveniently spotted next to operator and completed parts are loaded on special Ironbound tiering trays. Note how tiered trays are stacked for movement to next operation.

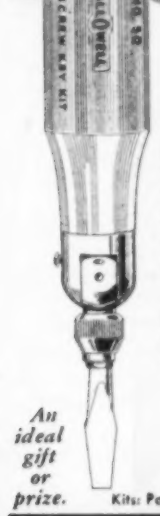
GE LOWERS MANUFACTURING COSTS WITH IRONBOUND PRODUCTION-LINE SKIDS

Fully loaded semi-live skid is easily moved with simple Ironbound lift jack to next operation or to assembly lines or to storage. The quickest way to increase production and lower manufacturing costs is to write to Ironbound. Describe your handling problem — Ironbound engineers will show you how to solve it with a cost-saving solution. Ask for descriptive literature.

IRONBOUND BOX & LUMBER COMPANY
55 Hoffman Pl. • Hillside, N. J.

▲ Mention Item NED-2244 when writing ▲





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"SOCKET SCREW" KIT

For men who like to have a complete supply of tools, yet dislike bulk and confusion, the Hallowell "Socket Screw" Kits are the answer. Their hollow, durable plastic handles hold interchangeable *steel* bits for most all purposes . . . Phillips, Hex and Flat. They each have a swivel bit-chuck, which locks securely in five positions. In large and small sizes.

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▲ Mention Item NED-2245 when writing ▲

Speed Up Stud Installation with NELSON AUTOMATIC STUD WELDING!

- ★ Eliminates DRILLING . . . TAPPING . . . HAND WELDING!
- ★ Portable . . . NELSON stud welding "gun" weighs only 5 lbs.!
- ★ Fully Automatic . . . no special skill or training required!
- ★ Versatile . . . "gun" handles studs from 1/8" through 3/4" in diameter, up to 8" long!
- ★ Fast . . . operators average 100 to 200 stud welds per hour with manual "gun"—20 or more welds per minute with NELSON production units!

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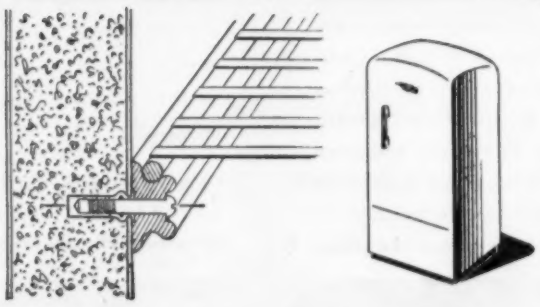
Write, phone or wire for your copy of the NELSON Catalog and Data book. Complete information on stud welding and scores of practical applications, fully illustrated.

NELSON SALES CORPORATION
2711 Toledo Ave. • LORAIN, OHIO

▲ Mention Item NED-2246 when writing ▲

RIVNUT LICKS TOUGH FASTENING PROBLEMS



KEEPING AIR-TIGHT SEAL, and not cracking porcelainized metal, extruded plastic strip had to be fastened to interior wall. B. F. Goodrich Rivnuts made it a simple blind fastening job! 8-32 thread blind-end aluminum Rivnuts were inserted into holes of metal wall and upset. Strips were held in place by screw attachments in clean Rivnut threads. Installation time and money were saved, and maintenance was made easy.

NEW "RIVNUT DATA BOOK" *has 40 fact-packed pages of illustrated uses, types, sizes, test data. Write for your free copy to The B. F. Goodrich Company, Dept. N-47, Akron, Ohio.*

B.F.Goodrich, AKRON, OHIO

▲ Mention Item NED-2247 when writing ▲

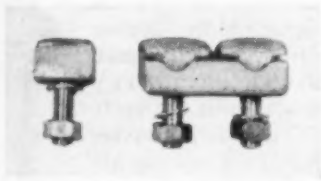
BENCH TYPE VISE

Quick operation of this bench type vise is accomplished by pushing barrel and screw assembly until jaws contact work, and then partial turn of screw holds workpiece firmly. To release work, half turn of screw reduces pressure and flick of lock lever permits jaw to be withdrawn. Rear jaw can be set in two positions and both jaws are fitted with removable inserts so that either plastic or soft metal inserts can be used.

Maximum opening is 1⅛ inches and jaw width is 1½ inches. Accessories include small hand vise with ⅞-inch jaw opening, vise handle, swivel base (*Item NED-7034 Nov. '46*) and ball positioner. Made by **Reypo Corp.**, 9900 Lincoln Blvd., Los Angeles 45, Calif.

▲ Mention Item NED-2248 when writing ▲

CABLE CONNECTORS



Designed for connecting electrical cable to any flat surface, multipurpose cable connectors can be used with circuit breakers, disconnect switches, potheads, fuses and transformers. They are adapted to taping because of their smooth round form. Connectors are available in two styles for either one or two-cable connections and in sizes to handle from No. 6 solid conductors to 1,000,000 circular mil cable. Clamp body is bronze alloy. Made by **Royal Electric Mfg. Co.**, 1122 E. 87th St., Chicago 19, Ill.

▲ Mention Item NED-2249 when writing ▲

LOW PRESSURE FIRE POT

Incorporating adjustable syphoning tube for instant balancing of gas and air mixture, this No. 275 low pressure fire pot operates efficiently on 20 to 30 pounds pressure. Syphoning tube is mounted so that it can be moved back and forth in burner, thus permitting use with widely varying fuel characteristics and job conditions. This feature permits intense flame concentration at proper point and longer coil life.

Flame control valve has stainless steel orifice cleaner which cleans orifice automatically, eliminating need for separate cleaner wire. Burner coil is fabricated of heavy seamless steel tubing and is protected by outer jacket that maintains heat without overheating. It is designed for efficient operation in strong wind. Fire pot will melt 20 pounds of lead in 3 minutes. Fuel capacity is 9 pints. Made by **Turner Brass Works**, Sycamore, Ill.

▲ Mention Item NED-2250 when writing ▲

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Truck-Man saves time and money for this busy manufacturer. He's "sold" on Truck-Man for these reasons:
- Lifts and hustles skidded capacity loads—without starting or dropping shocks . . .
- Turns in 360°—snakes into holes its own length—increases usable floor space . . .
- Grouped controls speed operation, cut fatigue . . .
- Speeds briskly on straightaways—creeps in narrow aisles and close squeezes . . . • Drives on big DUAL pneumatic-tired wheels for traction and easy riding . . .
- Stands the gaff—tireless, day in, day out! TRUCK-MAN is ECONOMICAL TO OWN, EASY TO BUY!

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65 Distributors in principal centers provide standard service

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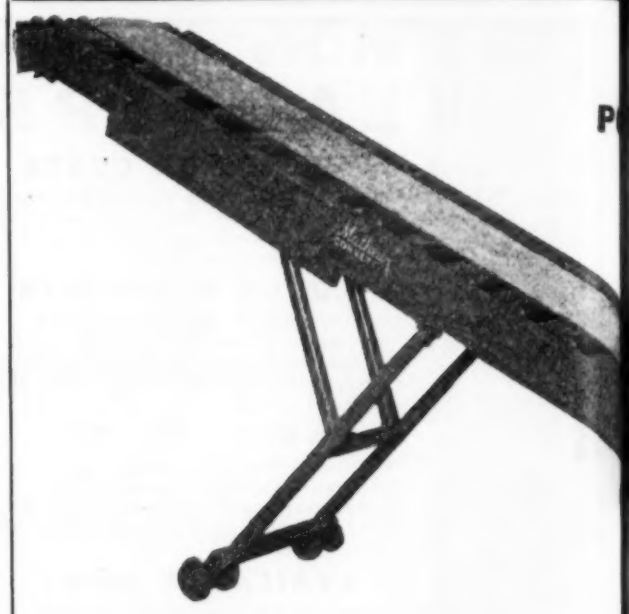

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ELLWOOD CITY, PENN
PORT HOPE, ONTARIO • SAN CARLOS, CAL.

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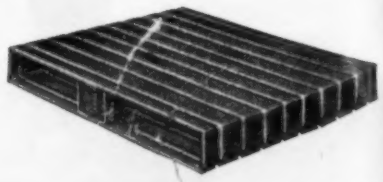
. . . with UNION METAL Materials Handling Equipment

MAKE the *most* of your storage space—keep floor space clear for stepped-up production—with the help of Union Metal's steel pallets, skids and boxes. You'll find these sturdy, long-lasting units help you . . .

★ *SAVE TIME* ★ *CUT COSTS* ★ *SPEED PRODUCTION*

. . . because they're *designed* to store or move raw materials or finished products in unit loads—with maximum safety and economy. Standard designs to meet most requirements; "specials" for your "hard-job" problems. For complete information, write The Union Metal Mfg. Co., Canton 5, Ohio.



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with FEWER, SIMPLER OPERATIONS

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PRODUCTION-LINE EXAMPLES • PRODUCTION-METHOD RECOMMENDATIONS • COST-SAVING ILLUSTRATIONS

all vitally important in relation to today's demand for greater output and fewer work-operations.

MEDIUM — RUBBER AND ABRASIVE IN achieves work-saving results by simultaneous FINISHING and POLISHING.

will be glad to call to discuss operation short cuts. Ask your Brightboy catalog-manual and price list.

BRIGHTBOY INDUSTRIAL DIVISION

Newark 7, N. J.

the SOFT RUBBER BINDER CUSHIONS the Abrasive

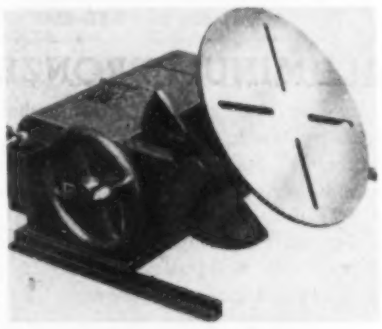
Mention Item NED-2255 when writing

GLASS CIRCLE CUTTING UNIT

Glass cutting machines are available in sizes to cut circles of up to 8, 15, 24 or 32 inches. Baseboards of corresponding sizes and guides for holding glass can be furnished. Machines have square b which fits into arm at true right angle with spindle for regulating size of circle to be cut. Head attached to this bar holds either diamond or wheel and pin. Piano wire spring and ball bearing thrust bearings are used to hold friction to minimum and can be adjusted for pressure when cutting. Made by **E. Karelsen, Inc.**, 125 W. 45th St., New York 19, N. Y.

Mention Item NED-2255 when writing

BENCH POSITIONING DEVICE



Power operated bench model No. 1-P positioning device is recommended for handling small units to facilitate welding, assembling, repairing, grinding, hard surfacing and similar operations. Work can be revolved 360 degrees and tilted up to 135 degrees. Locking system will hold work in any position at any degree of tilt.

Device is powered by ⅛-horsepower single phase reversible motor. Disengaging clutch permits free wheeling when desired. Speed range is from 0.21 to 5 revolutions per minute. Made by **Ransome Machinery Co.**, Industrial Div., Dept. P-67, 1425 S. Second St., Dunellen, N. J.

Mention Item NED-2256 when writing

WET BELT GRINDING MACHINE

Variety of operations can be performed on this centerless wet belt grinding machine. Workpieces measuring from ¾-inch to 2 inches in length, and longer with proper supports, can be accommodated and diameters from 3/32 to 2¼ inches can be handled. Endless abrasive belt operates over resilient contact roll which minimizes chatter. Swivel head is provided so that contact roll can be trued on machine in normal position.

In the event abrasive belt breaks, it simply drops off machine. Grinding is done below center to avoid throwing work out of machine. Work being ground remains cool and distortion or discoloring is eliminated. Abrasive belt can be changed easily and quickly. Made by **Porter-Cable Machine Co.**, 1710 N. Salina St., Syracuse 8, N. Y.

Mention Item NED-2257 when writing

40 PAGES OF REFERENCE ON DOORS FOR EVERY NEED

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THIS helpful new book will give you latest comprehensive details on a complete range of upward-acting doors for every type of building, old or new—famous Kinnear Steel Rolling Doors with motor or manual operation, Rolling Fire Doors, sectional-type doors, and protective rolling grilles. Send for your free copy of this new Kinnear Catalog today!

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SAVING WAYS in DOORWAYS KINNEAR ROLLING DOORS

Offices and Agents in all Principal Cities

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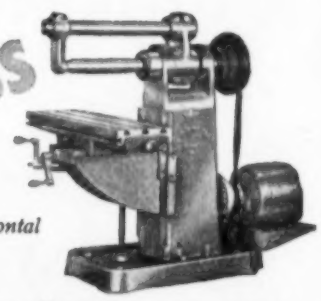
ONE for TWO JOBS



benchmaster mill with horizontal spindle and overarm

ONE benchmaster FOR BOTH HORIZONTAL AND VERTICAL MILLING

Now you can obtain a precision perfect, high-speed *benchmaster* milling machine that's easily convertible from a horizontal to a vertical miller by simply interchanging spindle attachments. Its *un*usual versatility, plus the *usual* quality-plus *benchmaster* workmanship, make this double-duty milling machine an outstanding addition to your shop.

SAVES VALUABLE SPACE—CUTS DOWN EQUIPMENT COSTS

SPECIFICATIONS: Table size—6"x 14"—3 Tee slots ⅜", 2" center. Longitudinal travel 8½". Traverse travel 5½". Vertical travel 8½" on vertical mill—9½" horizontal mill. Height 28". Weight (less motor) 215 lbs. Requires ½ h. p. motor. Spindle speeds (standard 1725 rpm motor) 450-850-1400-2100 rpm.

For complete information write to Dept. NED-4

benchmaster MANUFACTURING COMPANY 2952 WEST PICO BOULEVARD LOS ANGELES 6, CALIFORNIA

Mention Item NED-2260 when writing

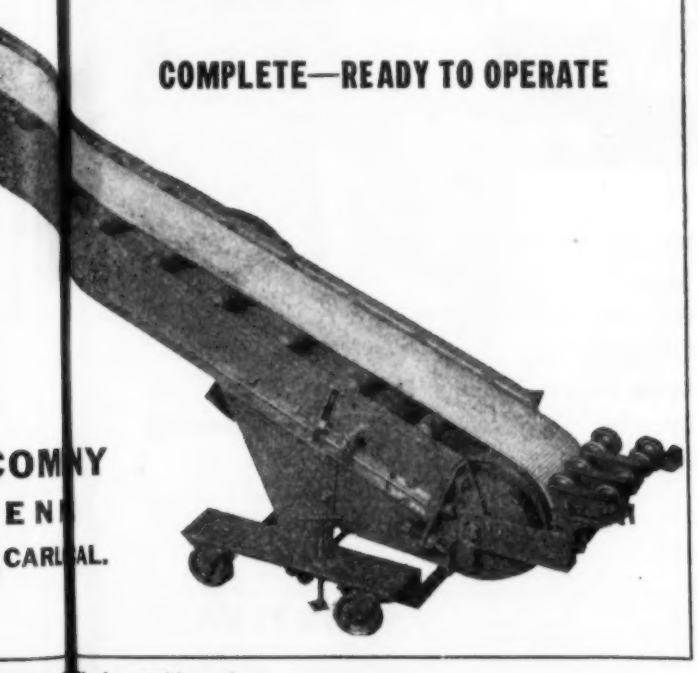
MATHEWS

PORTABLE BELT CONVEYERS

10'-0" - 16'-0" - 19'-0" LONG

12" BELT WIDTH

COMPLETE—READY TO OPERATE



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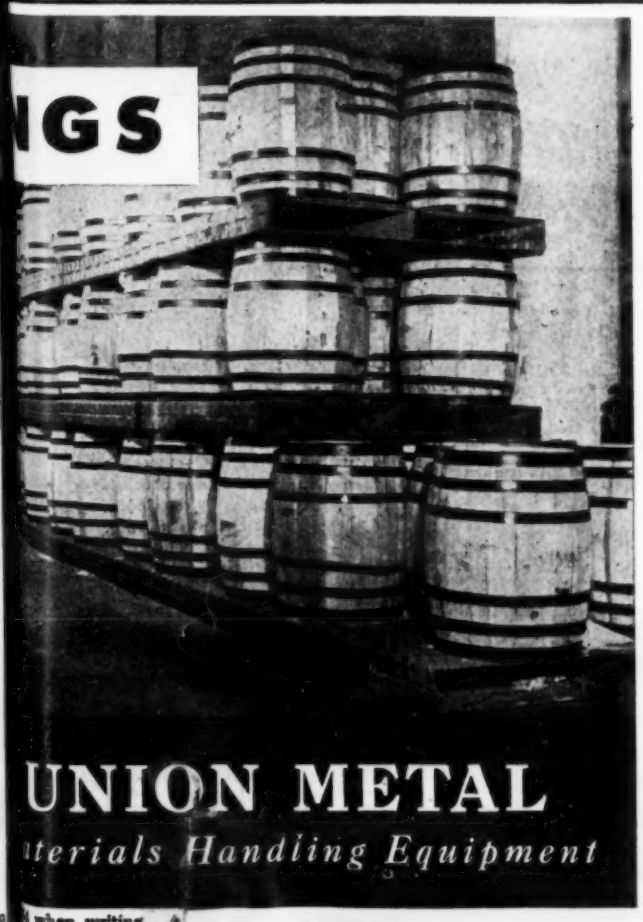

UNION METAL

Materials Handling Equipment

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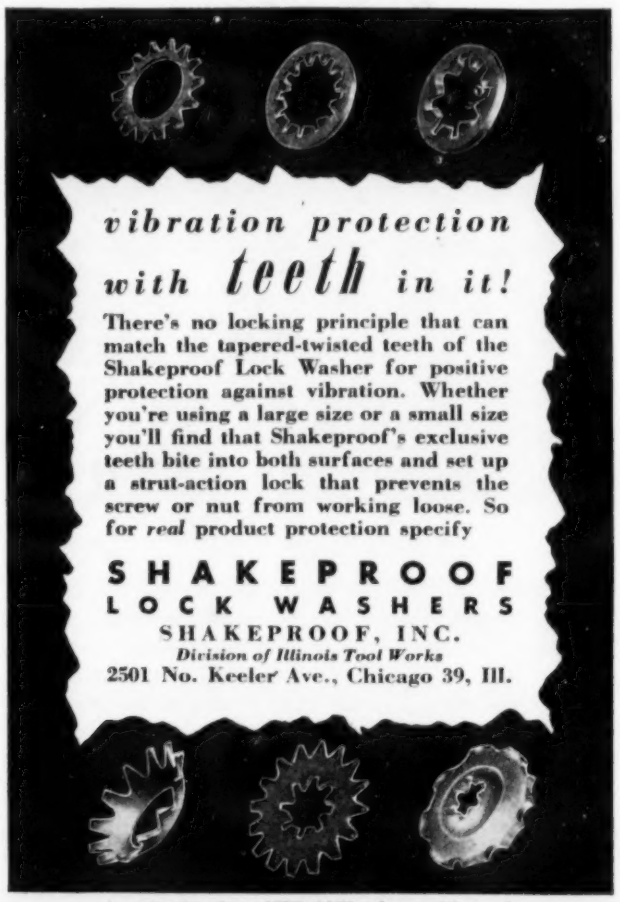

vibration protection with teeth in it!

There's no locking principle that can match the tapered-twisted teeth of the Shakeproof Lock Washer for positive protection against vibration. Whether you're using a large size or a small size you'll find that Shakeproof's exclusive teeth bite into both surfaces and set up a strut-action lock that prevents the screw or nut from working loose. So for *real* product protection specify

SHAKEPROOF LOCK WASHERS

SHAKEPROOF, INC.

Division of Illinois Tool Works

2501 No. Keeler Ave., Chicago 39, Ill.

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EXCLUSIVE

ONLY ONE FLOOR PLATE GIVES YOU THESE ADVANTAGES

GRIP WITHOUT A SLIP!

EASY TO CLEAN!

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AW SUPER-DIAMOND

FLOOR PLATES THAT GRIP

Pattern Illustrated ½ Actual Size

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MASTER ELECTRIC
"POWER BLOW" HAMMER

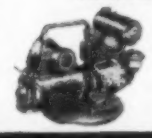
For drilling, tamping, chipping, scaling, caulking, peening, etc. Takes tools from 1/4" to 2 diameter. ☐

MASTER GRINDERS
Electric "Plug-In" or Engine-Driven
For grinding, finishing, smoothing, grouting, sanding, brushing, buffing, polishing, etc. ☐

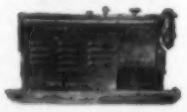
TAMPERS
Electric "Plug-In" or Engine-Driven

Power-packed Tamper for tamping earth, backfills, gravel, slag, asphalt, mastic, compounds, sod, etc. For cutting and patching asphalt, blacktop, mastic floors, pavements. ☐

MASTER ELECTRIC GENERATOR PLANTS



From 1/2 to 17 KW (18.7 KVA). Gasoline or Diesel Fuel. D.C., A.C. Single or three-phase. Power plant, standby or emergency units. ☐



MASTER

THE MASTER ELECTRIC CO.

INDUSTRIAL EQUIPMENT DIV., DAYTON, OHIO

Machine Drives • Electric Hoists • Electric Hammers • Engine Driven Generator Plants • Portable Grinders • Big 3 (Power, Tool Operation, Concrete Vibration) Units • Tampers

▲ Mention Item NED-2262 when writing ▲

RECOVER *More* GOLD . . . *More* EASILY

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Recovering up to 98% of the free gold content quickly and easily, the Titan Rotary Amalgamator is simple and economical to operate. Rotary action of the plates achieves high efficiency. The Titan makes amalgamation tables and barrels obsolete. Write for full information today.

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24 Pages of Help!

on selection and application

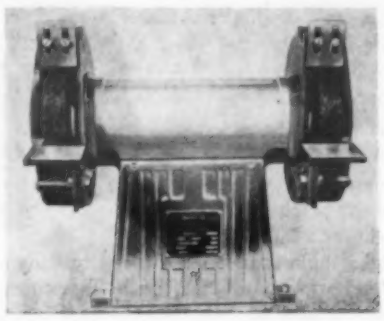
If you work up around 15,000 to 350,000 volts, 2 to 1000 kva, this 24-page bulletin is good news on high-potential test sets. Thirty-four test sets—completely engineered and built by G.E.—give you a choice of equipments that have been found by use to be most practical and economical for either the simplest or the most complex installations. For extra high voltages, cascade circuits are featured. Complete, proven designs save drafting, engineering time, assure quality performance. Write for Bulletin GEA-4559, to *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

high-potential test sets

GENERAL ELECTRIC

▲ Mention Item NED-2264 when writing ▲

BENCH GRINDER



Feature of this bench grinder is full clearance between grinding wheels so that unobstructed motion of workpiece is possible. Thus, entire grit portion of wheel can be utilized. Models are available with 7, 8 or 10-inch wheels and standard equipment includes enclosed wheel guards with adjustable tool rests and spark shields.

Grinders operate at 3600 revolutions per minute. Cast aluminum base and motor housing are designed to shed dust and metal particles. One coarse and one medium high speed grinding wheel are furnished. Made by **Bardco Mfg. & Sales Co.**, 2454 E. 23rd St., Los Angeles, Calif.

▲ Mention Item NED-2265 when writing ▲

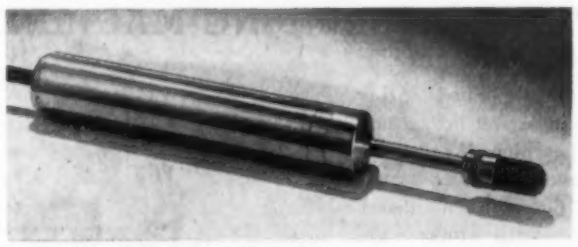
ALUMINUM BRONZE ROD

Easy striking and nonsnuffing characteristics are features of Ampco-Trode "AC" shielded-arc coated aluminum bronze electrodes. Spatter loss is held to minimum. Manipulative characteristics have been improved for welding with reverse polarity direct current. Electrodes are recommended for use in welding cast iron, malleable iron, aluminum bronze, silicon bronze, some nickel alloys and dissimilar metals with alternating current transformers having 75 to 85-volt open circuit voltage and with direct current generators. Made by **Ampco Metal, Inc.**, Dept. 447, 1745 S. 38th St., Milwaukee 4, Wis.

▲ Mention Item NED-2266 when writing ▲

INDUSTRIAL HYDROPHONE

Designed primarily for use as standard for underwater sound pressure measurements, this model No. BM-101 hydrophone is capable also of measuring sound pressures in liquids which are



contained within enclosure or which for all practical purposes are unenclosed. Unit consists of sound pickup head connected to preamplifier housing. It can be used as standard microphone for making acoustic measurements in air. Frequency range in water is from 100 cycles to 100 kilocycles and in air from 100 cycles to 20 kilocycles.

Hydrophone is equipped with 35 feet of five-conductor shielded cable with one of the internal conductors separately shielded. Because of construction of pickup head, it is recommended that static pressure on this unit not exceed 15 pounds per square inch or that unit not be used at depth greater than 30 feet. Position of pickup head relative to sound source does not affect response of unit throughout frequency range. Made by **Brush Development Co.**, 3331 Perkins Ave., Cleveland 14, O.

▲ Mention Item NED-2267 when writing ▲

Vi-Speed

INCREASED OUTPUT 175% AND MADE THE JOB EASIER

Vi-Speed is used here in numbering and attaching electrical connectors to hot water heater unit coils. *Vi-Speed's* positive grip solved this difficult holding problem and increased output 175%. Same unit equipped with smooth jaws used to straighten edges of metal sterilizer boxes. Write for catalog. *Immediate delivery.*

A Few Sales Territories Available

VAN PRODUCTS CO.
174 ERIE TRUST BLDG., ERIE, PA.

▲ Mention Item NED-2268 when writing ▲

RIC-WIL CONDUIT MAKES IT POSSIBLE TO INSTALL STEAM LINE UNDER BUSY STREET—WHILE TRAFFIC MOVES AS USUAL

● Ric-wiL prefabricated insulated units enabled the Toledo Edison Co. to carry out a truly modern method of installing underground pipe, without the necessity of tearing up street pavement from curb to curb. Instead of the tremendous expense and crippling confusion which are often involved in such projects, traffic proceeded normally on busy Jefferson St., almost completely unaware of the work in progress below. From a 6 ft. square excavation at the steam main, crews augered 26" x 36" tunnels both ways, welded Ric-wiL pre-sealed units together and jacked them through to building basements. This is a graphic demonstration of one of the many reasons why the words "Ric-wiL Prefabricated Conduit" appear with such constant regularity on engineering specifications sheets.

Write for descriptive Catalog No. 44.

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS
THE RIC-WIL COMPANY • CLEVELAND, OHIO

▲ Mention Item NED-2269 when writing ▲

NEW STURTEVANT DRY BATCH MIXERS

Increase Output, Cut Costs, 4-Way Mixing Action Assures Thorough Blends

Open-Door Accessibility Permits Fast, Easy Cleaning

The new, improved Sturtevant dry-batch mixers thoroughly and efficiently mix two or more substances into a homogenous and inseparable whole, every part of which has the same analysis. The 4-way mixing action does a more rapid mixing job than other machines. The single receiving and discharging opening permits tight sealing during the mixing process. Open-door accessibility permits thorough cleaning.

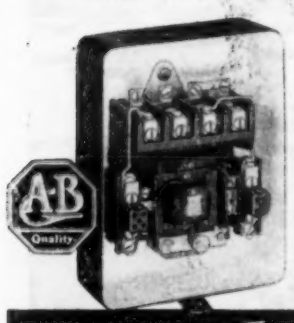
The mixer is simple and easy to operate . . . hand lever controls both receiving and discharging. These efficient Sturtevant dry-batch mixers are available in five sizes with mixing capacities from 7½ tons to 75 tons per hour. Write for bulletin and complete information today.

STURTEVANT MILL COMPANY
114 Clayton St., Boston 22, Mass.

▲ Mention Item NED-2270 when writing ▲

"NO CONTACT MAINTENANCE"

Allen-Bradley Double Break Silver Alloy Contacts Never Need Cleaning, Filing, or Dressing.



All A-B solenoid starters are equipped with double break, silver alloy contacts. Oxides that may form on their contacts are good electrical conductors. That's why they never need maintenance. Furthermore, the starter has only one moving part—no pivots, pins, or bearings to cause trouble. Easy to install, too. The white interior reflects light in dark corners—making wiring and inspection easy. Write Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.

ALLEN-BRADLEY SOLENOID MOTOR CONTROL

▲ Mention Item NED-2271 when writing ▲

POWER *flow*

ONLY AS TRUE, DEPENDABLE AND EFFICIENT AS ITS COUPLING

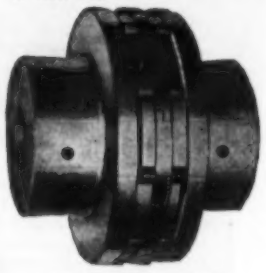
LOVEJOY L-R FLEXIBLE COUPLINGS

Pat. and Pats. Pend.

From Type "A" for fractional h.p. to 50 h.p.

to

Type "W" for heavy duties, to 2500 h.p. and weighing from 5 to 3000 lbs.



Pat. and Pats. Pend.

Resilient Alignment Types *simplest*, most rugged insurance of true performance—correction for misalignment, takeup of shock and vibration, backlash, chatter, etc. The *quiet couplings!* Send for complete catalog, with Selector Charts for quickest finding of couplings you need.

LOVEJOY FLEXIBLE COUPLING CO.

[illegible] W. LAKE ST., CHICAGO 44, ILL.

Also mfrs. of Lovejoy-IDEAL Variable Speed Transmissions

▲ Mention Item NED-2272 when writing ▲

Speeds Up Inplant Handling

● Complementing and supplementing power equipment, the FMC Clamp Truck is uniquely designed to handle boxed loads up to 600 pounds quickly and *easily*.

● Powerful clamp arms operated by a foot pedal pick up and hold loaded boxes and baskets firmly in place. Ideal for crowded areas inaccessible to larger carriers. Built for long time rugged service.

● Not just another hand truck, but a boon to the operator that soon pays its way in time saving. For descriptive catalog write Dept. ND.

FOOD MACHINERY CORPORATION

RIVERSIDE DIVISION • RIVERSIDE, CALIFORNIA

▲ Mention Item NED-2273 when writing ▲

Talk About PRODUCTION Without DIES!

4,000 Parts Per Day with DI-ACRO Bender

"Enclosed are pictures taken in our plant which prove the DI-ACRO Bender will do a real production job. We are making 4,000 completed parts per day which is competitive to most Power Presses." (Name on request.)

Here is an example of "DIE-LESS DUPLICATING" typical of a great variety of formed parts readily made with DI-ACRO Precision Machines,—Benders, Brakes, Shears. Picture below shows an acute right angle bend and photograph above shows the finished part formed to die precision. Women operating DI-ACRO UNITS maintain a high out-put on production work.

DI-ACRO pronounced "DIE-ACK-RO"

Send for Catalog ●

O'NEIL-IRWIN MFG. CO.

354 EIGHTH AVENUE LAKE CITY, MINNESOTA

▲ Mention Item NED-2274 when writing ▲

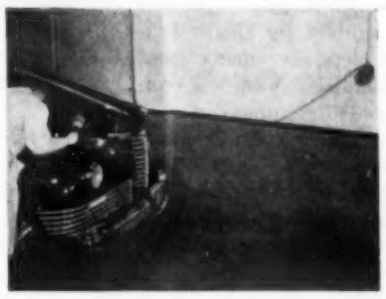
FEEDING TONGS & PLIERS

Five styles of magnesium feeding tongs and pliers are available for practically every type of punch press work adaptable to hand feeding. Tongs and pliers prevent injury to dies because of pulverizing characteristic of cast magnesium. If tip of tool is accidentally caught in action of press, it will crumble to dust without harming costly die. Tools are light in weight and therefore reduce operator fatigue.

Side grip tongs, offset pliers, regular tongs, long nose pliers and curved nose tongs can be furnished for handling various shapes in wide range of punch press applications. Tools keep operator's hands out from under dies in feeding work or removing work from press. Made by W. I. Martin & Co., 711 S. Dearborn St., Chicago 5, Ill.

▲ Mention Item NED-2275 when writing ▲

TROUBLE LIGHT

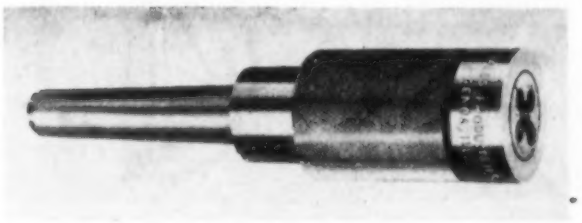


Having cord length of 43 inches when retracted and 25 feet when extended, Recoil-Lite trouble light employs Koiled Kord. Jacketed with Neoprene, cord is impervious to steam, water, oil, grease and most acids. Safety clamp on plug end of cord eliminates accidental disconnection at outlet. Self-retracting characteristic assures safety in use of trouble lamp. Cord with extended length of 35 feet is also available. Made by Kellogg Switchboard & Supply Co., Koiled Kord Div., 6650 S. Cicero Ave., Chicago, Ill.

▲ Mention Item NED-2276 when writing ▲

TAP & DIE HOLDER

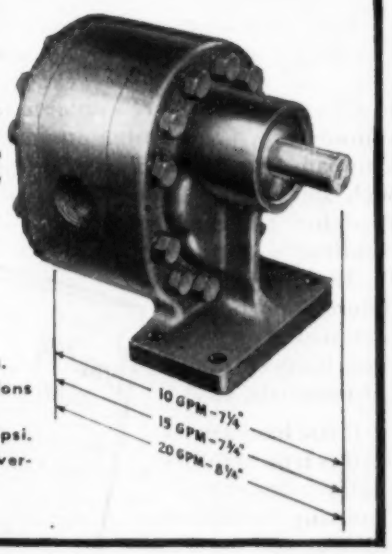
Designed for use in cutting internal and external threads on small production runs of turned parts, this releasing tap and die holder can be used in screw machines and engine lathes.



Holders are available in three shank sizes which are No. 2 Morse taper for use in engine lathe tailstock sockets and 5/8 and 3/4-inch straight shank sizes for use in screw machine turret heads. All sizes use standard 1-inch button type die for external threading or standards taps for tapping holes. Made by Falls Products, Inc., 102 N. Genoa St., Genoa, Ill.

▲ Mention Item NED-2277 when writing ▲

THE NEW *Cubline* HYDRAULIC OIL PUMP



● Three standard sizes.
● 10, 15 and 20 gallons per minute.
● Pressures up to 1,000 psi.
● Compact—97% over-all efficiency.

Ready to go to work wherever you need dependable hydraulic power, priced low—Hydro-Power's new Cubline Hydraulic Oil Pump.

Let us quote on your requirements for pilot model machines or for your regular production. Write for prices today. Hydro-Power, Inc., Belmont and Sheridan Aves., Springfield, O., U.S.A.

hydro power hydraulics FOR DEPENDABLE PACKAGED POWER

▲ Mention Item NED-2278 when writing ▲

Attach this FLEXIBLE TOOL-SHAFT to any AVAILABLE MOTOR

for EASY GRINDING BUFFING DRILLING POLISHING SANDING

THE STOW FLEXIBLE TOOL-SHAFT, in combination with the proper attachments, will perform all the operations so important to shop mechanics and maintenance men, plus many miscellaneous jobs. It expands the applications of power hand-tools also . . . quickly, easily, and economically.

Every shop should have at least one of these STOW Flexible Tool-Shafts. Its ample length and portability makes it ideal for reaching those out-of-the-way, hard-to-get-at places, and it is simple to connect and disconnect.

Adaptable to portable power units, either electric or gasoline, and to stationary power plants. Write for full details today, or see your mill supplies or hardware dealer!

HERE'S REAL VALUE (5 FT. MODEL) FOR A PRICE ALL CAN AFFORD! $15.00

6 FT. MODEL $16.50

STOW MANUFACTURING CO.

26 Shear St., Binghamton, N. Y.

▲ Mention Item NED-2279 when writing ▲

OHIO "Extra Strength" MAGNETS

REDUCE metal handling COSTS

Production goes UP — overhead costs go DOWN — when Ohio "Extra Strength" Magnets are on the job. Wherever ferrous metals must be handled in quantity, these rugged, dependable lifting magnets are giving EFFICIENCY and PROFITS a lift. Ohio "Extra Strength" Magnets move iron and steel in any form . . . faster . . . safer . . . and cheaper . . . than any other method.

Why cling to dangerous, inefficient and time-consuming methods when Ohio Magnets handle ferrous metals so much better? Investigate the tremendous savings provided by these magnets — today! Ohio Electric Mfg. Co. engineers are always ready to assist you in the solution of your problems.

THE OHIO ELECTRIC MFG. CO.

Chester Bland, Pres.

5932 Maurice Ave. ● Cleveland 4, Ohio

▲ Mention Item NED-2280 when writing ▲

Guaranteed not to shrink. ★ Bonds perfectly with old floor. ★ Compression strength three times that of concrete. ★ Abrasion resistance four times that of concrete. ★ Absolutely impervious to oil. ★ Ready-mixed — add water and apply. ★ Harder, tougher, more durable than the original floor.

Write today for Bulletin 121

DO IT RIGHT WITH HALLEMITE

THE HALLEMITE MANUFACTURING CO.
CLEVELAND 13, OHIO

▲ Mention Item NED-2281 when writing ▲

A New ROSS Piston Poppet Type AIR VALVE

★ PILOT OPERATED • SOLENOID CONTROLLED ★

- FAST OPERATING as high as 400 cycles per minute.
- FAST EXHAUST minimum restrictions to air flow.
- POSITIVE SEAL by line pressure.
- SIMPLICITY OF DESIGN removing end plug permits replacement of piston poppet assembly—no need to disturb piping or to remove valve from position—no "down time."
- CURRENT consumption 1.2 amps. at 110 volts—60 cycle.
- SMALL and COMPACT
- ALL PARTS non-corrosive metals.
- ALL PARTS INTERCHANGEABLE

FOUR-WAY ⅜" Capacity

Available in:-

- THREE-WAY normally open, or normally closed
- FOUR-WAY and
- FOUR-WAY, Five port, may be had in ¼", ⅜", ½" and ¾" pipe size

ROSS Air Control VALVES

★ A TYPE AND SIZE FOR EVERY PURPOSE ★ OVER 100 DIFFERENT MODELS ★ THE BRIDLE FOR AIR HORSEPOWER

ROSS Operating VALVE CO.
6469 Epworth Blvd. Detroit 10, Mich.

▲ Mention Item NED-2282 when writing ▲

SIMPLIFIES INDUSTRIAL MATERIALS HANDLING

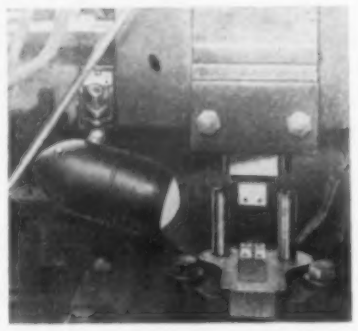
One truck serving an unlimited number of bodies . . . that is the Dempster - Dumpster System. Truck, equipped with Dempster-Dumpster Hoisting unit, places bodies at convenient locations for loading. Thus with one truck and Hoisting Unit combination serving many bodies, there's no idleness for truck or driver . . . but tremendous savings in trucks, tires, gas and labor.

Bodies are standard or special designs to meet individual requirements for handling any material, regardless of type, with bodies ranging from 1-1/2 to 10 cubic yard capacities. The Dempster-Dumpster Hoisting Unit, capable of handling up to 7-1/2 tons pay load, picks up loaded body, hauls and dumps materials with all controls in cab at driver's right. Write for catalog 245 now. Dempster Brothers, Inc., 646 Shea St., Knoxville, Tennessee.

DEMPSTER DUMPSTER

▲ Mention Item NED-2283 when writing ▲

INDUSTRIAL SPOTLIGHT



Suited for use on bench grinders, lathes, punch presses, riveters, etc., this industrial spotlight provides high degree of illumination and contrast. It consists of steel shell incorporating key type socket. Front end of shell contains lens which concentrates light directly where it is required. Louvers provide adequate ventilation while internal shields prevent stray light from escaping. Light is mounted on ball socket which holds fixture in any position. Price is approximately $6. Made by **Main Electric Co.**, 1462 Main St. E., Rochester 2, N. Y.

▲ Mention Item NED-2284 when writing ▲

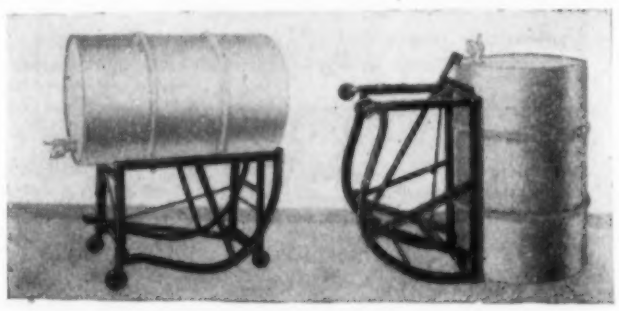
PORTABLE SHAKER SCREEN

Portable motor driven shaker screen for use with deburring and finishing barrels quickly separates finished work from tumbling medium. Screen is driven by 1/2 or 1/3-horsepower motor and vibrates in elliptical path at 380 reciprocations per minute. Length of movement is adjustable from 0 to 3/4-inch to suit wide range of industrial applications. Interchangeable wire screens are available in standard sizes with 3/64 to 2-1/4-inch openings and can be replaced by pushing up and slipping out screen from between retaining lugs at each end of frame. One portable screening unit will normally serve three or four barrels. Made by **Almco, Inc.**, 231 E. Clark St., Albert Lea, Minn.

▲ Mention Item NED-2285 when writing ▲

DRUM HANDLING TRUCK

Safety, efficiency and convenience in handling drums are provided with this model No. 56 Drum Cradle truck. Unit is equipped with 3-inch diameter wheels. Two wheels are



mounted on retracting wheel frames with foot lever to place them in action and two wheels are of swivel type so that truck can be maneuvered easily. Trucks embody standard steel angle construction which is sufficiently heavy to handle any drum load. They are finished in red enamel. Made by **Morse Mfg. Co.**, 110 Dickerson St., Syracuse 2, N. Y.

▲ Mention Item NED-2286 when writing ▲

BROACHING NEWS

Latest developments in broaching to reduce manufacturing costs, increase productivity per machine hour, and make the process more widely applicable to all kinds of jobs are available to you in this publication—issued every other month by Colonial Broach Company. Here you will also find technical articles on such subjects as "How to get the most out of your Broaches"; "Broach handling"; "Broach Puller designs for different purposes"; techniques in the broaching of different materials, etc.

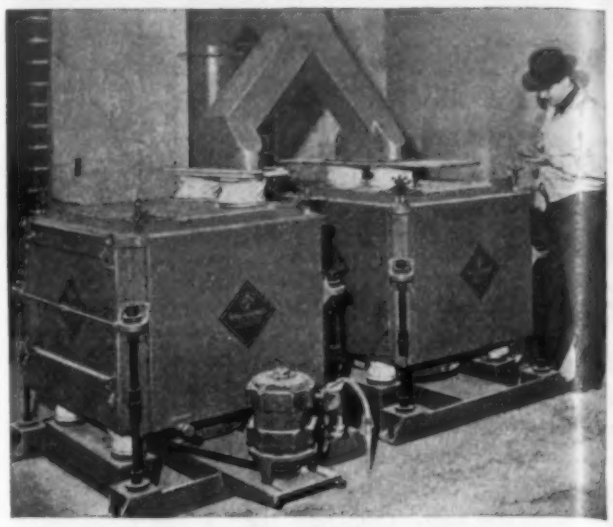
If you have a need for this type of information, a line on your Company letterhead will put you on the mailing list.

Ask for "Broaching News"

colonial BROACH COMPANY
DETROIT 13, U.S.A.
Broaches - Broaching Machines - Broaching Equipment

▲ Mention Item NED-2287 when writing ▲

A Better Sifting Job For Less Money With The
LOW-HEAD GYRATORY SIFTER



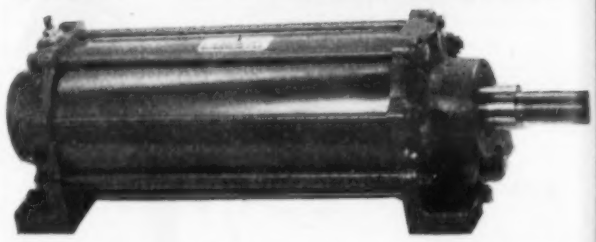
MORE THAN 100 different products — from aceto-acetanilid to zinc concentrate — are being successfully processed by the heavy duty *Low-Head* gyratory sifter. Designed for continuous or intermittent duty, this sturdy and flexible sifter is saving operating dollars for processors in the chemical, plastic, ceramic, mining, rubber, food and many other industries. Bulletin B6124A explains why.

A 2219

ALLIS CHALMERS MILWAUKEE 1, WISCONSIN

▲ Mention Item NED-2288 when writing ▲

AIR CYLINDERS



1. A new complete line of cushioned and non-cushioned air cylinders guaranteed to give the highest degree of performance for recommended maximum 300 P.S.I. service.
2. DESIGNED PARTICULARLY for COMPACTNESS for installation in smallest possible areas but of improved sturdy construction for rugged service.
3. Available in all popular mounting styles, single or double acting, 1½" to 10 inch bore size, any length stroke desired.

PNEUMATICS INCORPORATED
of
PLYMOUTH, INDIANA
501 W. HARRISON ST., PLYMOUTH, INDIANA

▲ Mention Item NED-2289 when writing ▲

VEMCO DRAFTING MACHINES

For Faster, More Accurate Work

Effortless movement . . . positive setting and control . . . flexibil . . . elimination of an awkward assortment of drafting tools — the are a few of the many important advantages of VEMCO drafti machines. They increase drafting room capacity as much as 40% o improve accuracy without wasted effort!

Only VEMCO drafting machines give you *all these features:*

- Simple tightening device produces proper band tension.
- Convenient, thumb-action indexing for each 15° in entire circ
- Exclusive articulated arms permit raising drafting head witho special hinge; moreover, permits scales to be flat.
- Positive scale holder firmly holds any standard scale, yet perm instant removal.

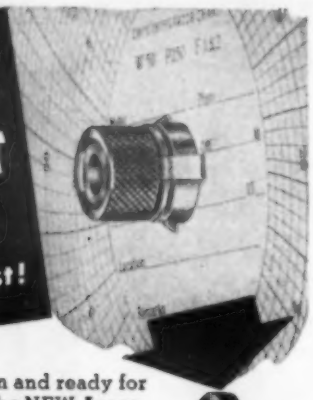
Ask your VEMCO distributor for a demonstration, or write us catalog of VEMCO drafting machines and drawing instruments.

V. & E. MANUFACTURING CO.
PASADENA 20, CALIF.

▲ Mention Item NED-2290 when writing ▲

ARCCO-MACNICK "SPEED-LOK" CHART HUBS

Never get lost!



Now under production and ready for immediate delivery, the NEW Arcco-Macnick "Speed-Lok" Chart Hub will save valuable time in changing charts. ● Simple to operate with no cap or loose parts to become damaged or lost, this new hub locks the chart securely in the DESIRED POSITION without damage to center hole. ● Replace your antiquated two-piece hubs with the new Arcco-Macnick single unit "Speed-Lok" Chart Hub. Fits practically all tapered arbor chart clocks. Send for bulletin #114.

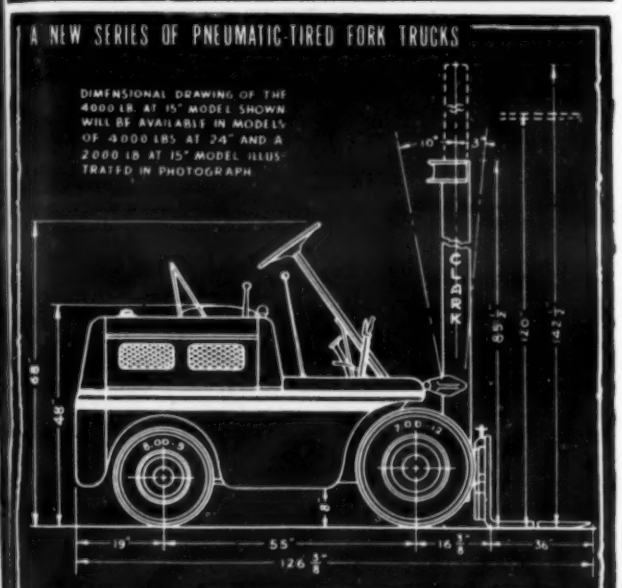
$1.50 *(Lower prices in quantities)*

AMERICAN RECORDING CHART CO.

3113 E. 11th Street • Los Angeles 23, California

▲ Mention Item NED-2291 when writing ▲

A NEW SERIES OF PNEUMATIC-TIRED FORK TRUCKS



BY CLARK—THE OUTSTANDING NAME IN MATERIAL HANDLING

Announcing the

YARDLIFT-40

YARDLIFT-20*

● The new YARDLIFT series is built especially for tough and rough going—moves one- and two-ton loads smoothly over bumpy yards and crossings, slick floors and docks.

● Featuring the stability of four-wheel design, yet amazingly maneuverable, these machines afford easy operation, easy riding—the newest thing in mobile powered equipment, designed to meet a specific need in material handling.

● Equipped with pneumatic tires and a pivoted steering axle mounting—the YARDLIFT is as easy on the cost sheet as it is on the operator.

● Write for specification bulletins on both of these new fork trucks, and for the modernized "MATERIAL HANDLING NEWS," just off the press, showing New Machines and New Devices.

**Yardlift — 20 Production June '47*

CUT COST FACTORS WITH CLARK TRUCTRACTORS

CLARK TRUCTRACTOR

Division of CLARK EQUIPMENT COMPANY

BATTLE CREEK, MICHIGAN

OTHER PLANTS – BUCHANAN, JACKSON, BERRIEN SPRINGS, MICHIGAN

FORK LIFT TRUCKS, TOWING, DUMP AND SHOVEL TRACTORS, RAILWAY TRUCKS

Other CLARK Products: DRILLS & GEARS; ELECTRIC STEEL CASTINGS, METAL SPOKE WHEELS, AXLES & HOUSINGS, TRANSMISSIONS

Prices on CLARK products will not be advanced in excess of increased costs.

▲ Mention Item NED-2292 when writing ▲

RADIAL BALL BEARING

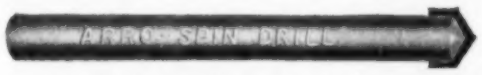
Designed particularly to handle radial loads, series 3000 line of low cost unground radial ball bearings is recommended for medium loads and for maximum speeds of 2500 to 3000 revolutions per minute. Where small sizes or intermittent service are involved, higher speeds can be used. These bearings incorporate one-piece inner and outer races turned from high quality steel and heat treated for hardness. Ball retainer is of two-piece type which reduces ball contact friction and increases range of allowable speeds. Depth of groove provides considerable thrust capacity.

Finish grinding of outside diameter is held to tolerance of 0.0006-inch or less and inside diameter is held to tolerance of 0.0005-inch or less. Bearings are available double shielded, with one shield or without shields. They can be furnished grease packed or without grease. Made by **Nice Ball Bearing Co.**, 2926 Hunting Park Ave., Philadelphia, Pa.

▲ Mention Item NED-2293 when writing ▲

MASONRY DRILL

Tipped with Carboloy, this Arro-Spin drill is recommended for drilling hard masonry of all types. Units are for use in portable electric or pneumatic rotary drills and they simplify



use of expansion bolts, anchors and allied fastening devices. Sizes range from 3/16 to 1-1/2 inches. Made by **Arro Expansion Bolt Co.**, Boone Ave., N-E, Marion, O.

▲ Mention Item NED-2294 when writing ▲

FATIGUE TESTING MACHINE

Flexure tests on sheet stock of metal, plastic or wood are made with this model SF-2 Sonntag fatigue testing machine which places specimen under same stresses as material would sustain in actual use so as to determine point of failure accurately. Because of its comparatively small size, 15 x 12 x 32 inches, machine can be placed in cabinet and temperature and humidity can be controlled. Unit weighs 115 pounds, has alternating force capacity of 20 pounds and speed of 1800 cycles per minute with a total travel of loading stroke of 1 inch per cycle.

In operation, testing machine requires no electronic equipment, complex linkage or special device to maintain constant force while specimen is under test. Fatigue and simulated service testing are effected by revolving eccentric mass which avoids use of cams or eccentric connecting rods. With this constant force machine, load automatically remains constant regardless of changes in amount of deflection of specimen. Predetermined load is applied alternately and resulting deflection is incidental. Made by **Baldwin Locomotive Works**, 942 Chester Pike, Eddystone, Pa.

▲ Mention Item NED-2295 when writing ▲

"SERIES II"

DUST-TIGHT

FLUORESCENT FIXTURES

for Hazardous Locations

● You get, not only *safer* lighting, but *more-productive* lighting, by installing Wheeler DUST-TIGHT Fluorescent Fixtures. They meet Underwriters' requirements for Class II-G and F, and Class III and IV Hazardous Locations. Engineered to eliminate "Borderline Vision"—lighting that's just too dim for maximum worker efficiency. Advantageous wherever lamps, sockets and reflectors need protection from dust and vapors.

Class II-G DUST-TIGHT Units are made in two and three lamp 40-watt units. Available with Water-White Plate Glass, Tempered Clear Safety Plate Glass or Double Thick Plain Clear Glass hinged dust-tight covers. Porcelain enamel finish throughout.

Write for complete data sheet. Wheeler Reflector Company, 275 Congress St., Boston 10, Mass., New York, N. Y. Representatives in principal cities.

Distributed Exclusively by Electrical Wholesalers

Wheeler REFLECTOR COMPANY

Lighting Equipment Specialists Since 1881

▲ Mention Item NED-2296 when writing ▲

PANOCO *Die-Cut* MASKING TAPE

CUT TO YOUR OWN SPECIFICATIONS

ANY SHAPE • YOUR DIMENSIONS

Save COSTLY PRODUCTION TIME with DIE-CUT Tape

Eliminate Time Wasted In Cutting Tape To Your Specific Shapes

ELIMINATES REWORK AND TOUCH-UP TIME

Protect surfaces in spraying, plating, buffing and polishing operations, this modern, easy way. Speed work preparation.

RESISTS HIGH TEMPERATURES

PANOCO MASKING TAPE

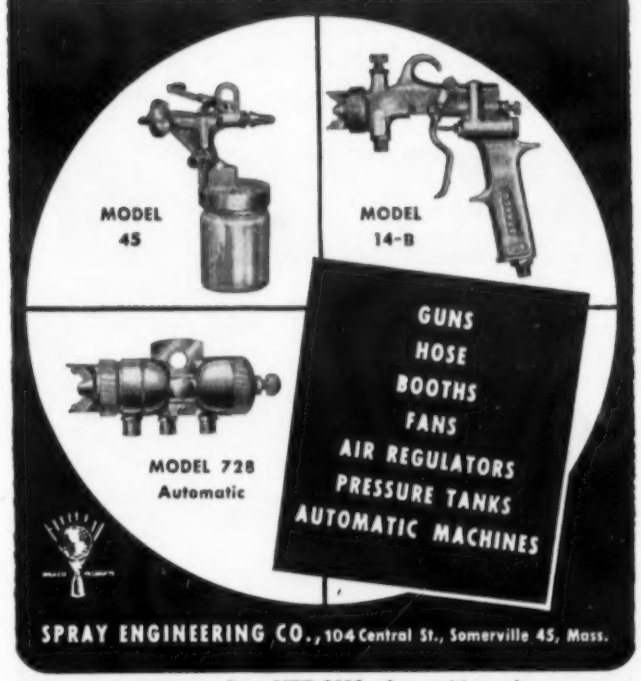
DIVISION OF PAPER NOV. MFG. CO.

505 CARROLL STREET, BROOKLYN 15, N. Y.

▲ Mention Item NED-2297 when writing ▲

SPRACO

PAINTING EQUIPMENT



SPRAY ENGINEERING CO., 104 Central St., Somerville 45, Mass.

▲ Mention Item NED-2298 when writing ▲

FELT

To Fit *ANY* Design Requirement

Felt can be processed to almost any consistency from the softness of a puppy's ear to the hardness of a seasoned maple board. . . . Felt can be die-cut, punched, skived, chiseled, turned, scarfed, ground or otherwise processed by simple and common methods . . . cut felts do not ravel, shred or fray — are often ready for assembly when shaped by a single, elementary operation.

The Felters Company designs felts of quality, weight and thickness to fit any design requirements — cuts them to the exact shape and size needed. And the Felters Precision Cut Felt Parts Manual makes ordering easy — insures prompt, accurate deliveries. Send for a copy.

The Felters Company, 210-M South Street, Boston 11, Mass.

THE FELTERS COMPANY

Makes the Felt for the Parts it Cuts

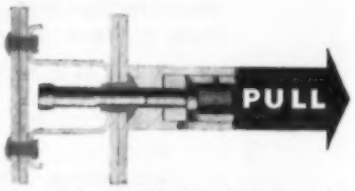
▲ Mention Item NED-2299 when writing ▲

Improved Fastening AT LOWER COST *with* CHERRY BLIND RIVETS

Cherry Blind Rivets simplify blind and difficult fastening. They form rigid, secure joints with strength values comparable to solid rivets. They are upset with a controlled pulling action, are installed by one operator working from one side of any application. Their use in a wide variety of industries has proved that they do save time and costs in manufacture, repair and maintenance processes.

Drawbolt of gun pulling head pulls stem into rivet, upsetting shank and forming tulip head at rivet tail.

For more details, get your copy of Manual D-45, free on request from your nearest jobber or from Cherry Rivet Co., Dept. D-113, 231 Winston Street, Los Angeles 13, California.



Cross section of self-plugging Cherry Rivet being installed in blind spot.

CHERRY RIVETS, THEIR MANUFACTURE & APPLICATION ARE COVERED BY U.S. PATENTS ISSUED & PENDING

Cherry Rivet Company
LOS ANGELES 13, CALIFORNIA

▲ Mention Item NED-2301 when writing ▲

Bryant Thread Gages

offer

SPEEDIER, SIMPLER, SURER INSPECTION...

Small threaded work or large unwieldy pieces are inspected faster, easier, and with master gage accuracy on Bryant Thread Gages. Two types, Bench and Portable, will check internal and external threads up to 8" and 3" respectively—the Portable Gage being ideal for inspection of internal threads in heavy castings, or work still chucked in the machine. Both gages employ the new Bryant principle of three point contact (two stationary thread segments—one retractable segment) and visual accuracy indication. Bryant Gages eliminate tedious threading, thereby increasing segment life and doing away with the groping "feel for fit" on the part of the inspector. They are so easy to operate that even a novice can become proficient in less than a day. In fact, all he has to do is press a lever, engage the segments, give the part or gage a partial turn and watch the dial indicator—immediately, size, presence of burrs, accumulated inaccuracies of pitch, lead, diameter and thread form are indicated. The Bryant Method of inspection is at least four to five times faster than the ring and plug gage system.

Are you interested in a speedier, simpler and surer inspection method for your threaded parts? Use the coupon below for complete details on Bryant Bench and Portable Thread Gages. This little effort now may save you hundreds of dollars in the future.

Please send me Catalog No. G3 which gives complete details on the Bryant Thread Gages.

Name_____ Title_____

Company_____

Street_____

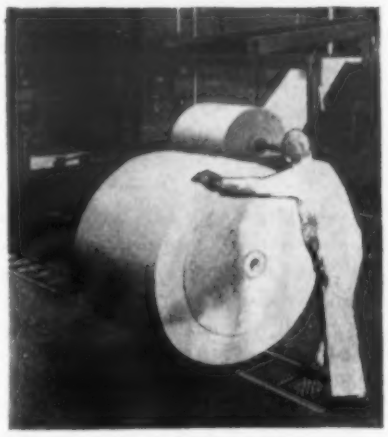
City_____ State_____

BRYANT CHUCKING GRINDER CO.
SPRINGFIELD, VERMONT, U. S. A.

BRYANT

▲ Mention Item NED-2302 when writing ▲

ROLLER FLOOR CONVEYOR



Heavy or bulky materials such as paperboard rolls, barrels, and bales of cotton can be transported easily by one man through use of EPCO ball-bearing Roller Trackage system installed in plant floor. Requiring trench in floor only 6 inches deep and 14-5/8 inches wide, roller conveyor sections can be installed quickly. Standard units are 10 feet long and other lengths, curved trackage and turntables can be furnished if desired. Made by **Engineering Products Co.**, Dept. ND, 122 S. Michigan Ave., Chicago 3, Ill.

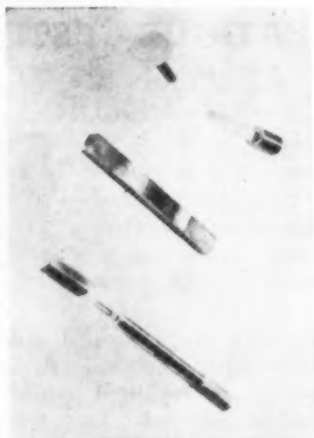
▲ Mention Item NED-2303 when writing ▲

WELDING ELECTRODES

Available in three diameters from ⅛ to 3/16-inch, AP-MO electrodes are designed for direct current, reverse polarity welding only of low alloy cast steel or low alloy, high tensile strength, rolled steels in all positions. It is suitable for making butt and fillet welds which will meet requirements of AWS-ASTM tentative specifications for iron and steel welding electrodes classification E-7010. Made by **Westinghouse Electric Corp.**, P. O. Box 868, Pittsburgh 30, Pa.

▲ Mention Item NED-2304 when writing ▲

HONING & BURNISHING TOOLS

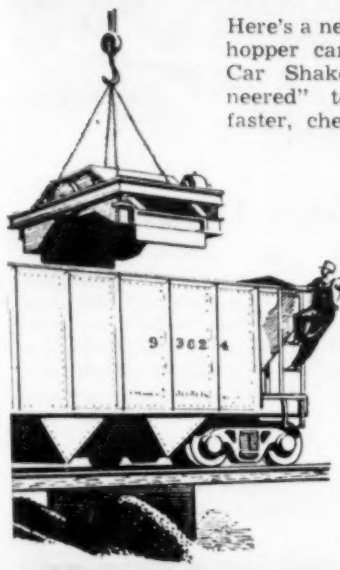


Two of the illustrated sapphire tipped honing and burnishing tools are designed to fit into lathe or drill press and are used with water as coolant. Burnishing tool shown at right is recommended for sizing bearings and tool in upper left is applicable for applying high finishes to outside surfaces and counterbores. This one-end tool is usually fitted into lathe. Both tools are furnished in diameters ranging from 0.200 to 0.700-inch.

Two lower tools feature double end design. Bottom tool has protruding solid sapphire members and round aluminum barrel with hexagon caps to protect ends. Tool is used chiefly for small parts burnishing and honing. Tool second from bottom is flat double end unit with solid sapphire inserts of two different grits. It is recommended for heavy and large work. Tools are claimed to hold size and remain accurate throughout operations. Because sapphire is nonmetallic and nonporous it will not seize or tear portion of bearing surface and will not close pores of prelubricated powdered metal bearing. Made by Sapphire Products Div., **Elgin National Watch Co.**, 932 Benton St., Aurora, Ill.

▲ Mention Item NED-2305 when writing ▲

NEW CAR SHAKEOUT UNLOADS HOPPER CARS IN 2 MINUTES



Here's a new way to unload packed hopper cars. It's the new Robins Car Shakeout . . . "Job-Engineered" to unload hopper cars faster, cheaper, better than ever.

FASTER, because it unloads cars in minutes—not hours.

CHEAPER, because two men can do the work of six.

BETTER, because it empties cars "broom clean" without harm to either the car or the load.

Solve *your* unloading problems with a "Job-Engineered" Robins Car Shakeout. Write for complete details.

ROBINS CAR SHAKEOUTS

ROBINS CONVEYORS INCORPORATED
Passaic, New Jersey
Division of Hewitt-Robins Incorporated

▲ Mention Item NED-2306 when writing ▲

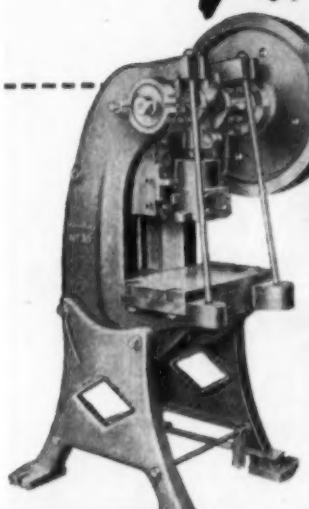
IMPROVED MODEL McCORD UNIT HEATER

The improved McCord Unit Heater incorporates every unit heater advancement that McCord engineers and the experience of thousands of users could suggest. The distinctive modern design with rounded corners combines improved appearance with greater strength and houses a heating unit that sets a new standard of heat transfer efficiency and quietness. The scientific design of the individual turbo spiral fin tube core provides even distribution of heated air at high velocity. The individual tubes prevent stresses due to unequal expansion. The entire heating unit is spring suspended and floats free in the casing eliminating rigid connections. Deep pitched fans provide high air delivery and quietness of operation.

This improved heater is a development of the experience gained from the thousands of McCord Unit Heaters in service. It combines good appearance with that inherent McCord quality of ruggedness and dependability that has made McCord the standard among many of the largest industrial users. You may also replace old leaking heaters using new McCord units and your old fan and motor. Write for new catalogs—Unit heaters and blast coil units. **McCord Corporation,** 2580 E. Grand Blvd., Detroit, Mich. —Advt.

▲ Mention Item NED-2307 when writing ▲

Packed with *PUNCHING POWER*



Diamond
INCLINABLE OPEN-BACK
PUNCH PRESSES
9-14-30 TON MODELS
IMMEDIATE DELIVERIES ON MOST MODELS

These new, streamlined DIAMOND punch presses are conservatively rated to provide maximum overload protection. All latest, most modern punch press features included. High speed operation. Bearing surfaces ground to 20 micro-inches. Precision machined and fitted throughout. Highest quality semi-steel castings. Low cost. Available from dealers all over U.S. WRITE FOR FREE CIRCULARS!

QUICK SPECIFICATIONS Model	Standard Stroke*	Shut Die Height	Frame Opening	Flywheel Speed
9 Ton	1½"	7"	5½"	185 max.
14 Ton	2"	9"	6½"	150 max.
30 Ton	3"	9"	10½"	125 max.

*Longer strokes available upon special order

DIAMOND MACHINE TOOL CO.
Dept. D • 3429 E. Olympic Blvd. • Los Angeles 23, Calif.

DIAMOND DTCo

MANUFACTURERS of the DIAMOND LINE of PRECISION MACHINE TOOLS and ACCESSORIES

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A Few of the Things SPENCER VACUUM Can Do in Your Plant

Clean-
FLOORS, WALLS
STRUCTURES, OFFICES

Aid Production-
BENCH WORK, REMOVE
CHIPS, CLEAN WORK
RECLAIM MATERIALS

Clean-
BOILER TUBES
MACHINERY, STOCK ROOM
BOX CARS

Any special problem you have has probably been solved by Spencer in some other plant. Our representative in your vicinity can tell you how.

333H

SPENCER VACUUM CLEANING
HARTFORD
THE SPENCER TURBINE COMPANY, HARTFORD 6, CONN.

▲ Mention Item NED-2309 when writing ▲

WHEREVER

"WHEN"

IS A PROBLEM—

- When to Start
- When to Eat
- When to Stop
- When to Rest

YOU NEED A

Montgomery

Synchronous Program Clock

Montgomery Program Clocks will energize one to four electrical circuits (to give time signals, turn on lights, start or stop electrically controlled machinery) on any prearranged schedule from one signal per 24 hours to as many as 24 signals every hour. The automatic calendar switch silences all signals during "off" hours or days.

In addition, the Montgomery Program Clock makes a most attractive office timepiece with its modernistically designed, ivory-finished steel case and readily visible dial.

Montgomery Synchronous Program Clocks are available at Radio Parts Distributors and School Supply Houses. *For complete Details, Specifications and Prices, Write—*

MONTGOMERY MANUFACTURING COMPANY
549 WEST WASHINGTON BOULEVARD CHICAGO 6, ILLINOIS
(Factory: Owensville, Indiana)

▲ Mention Item NED-2310 when writing ▲

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

SEALED

BID

SALE

BEARINGS

YOU can't go wrong when you get your bearings from the $23,000,000 stock now being sold by WAA. Friction and antifriction bearings and components—all sizes and types—all unused and in top condition. Set your own price on what you need. Your nearest WAA Regional Office will give you all pertinent information on the sale and will assist you to make an inspection before submitting your bid.

★ ★ ★

Sales of Bearings will be held at frequent intervals. To receive information on future sales, write to the Regional Offices listed below asking that your name be placed on their mailing lists.

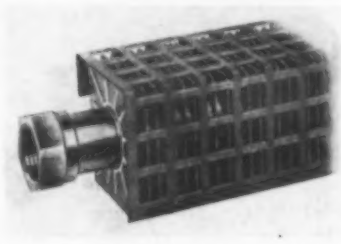
BOSTON · CINCINNATI · CHICAGO · CLEVELAND
ST. LOUIS · LOS ANGELES

WAR ASSETS ADMINISTRATION

Offices located at:
Atlanta · Birmingham
Boston · Charlotte · Chicago
Cincinnati · Cleveland · Dallas · Denver
Detroit · Fort Worth · Helena · Houston · Jacksonville
Kansas City, Mo. · Little Rock · Los Angeles · Louisville · Minneapolis · Nashville
New Orleans · New York · Omaha · Philadelphia · Portland, Ore. · Richmond · Salt Lake City · St. Louis · San Antonio · San Francisco · Seattle · Spokane · Tulsa 1021

▲ Mention Item NED-2311 when writing ▲

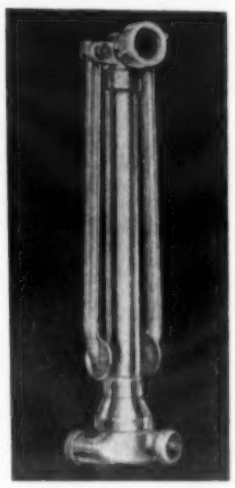
SURFACE RADIATION UNIT



Utilizing single tube diameter and standard fin size, type WI extended surface radiation units are designed for use with Webster heating systems. Fabricated entirely of nonferrous materials, units are available in five lengths from 2 to 6 feet. System uses hardened copper tubing in combination with aluminum fins. Tubing will handle saturated steam at pressures up to 100 pounds per square inch and temperatures up to 350 F. Basic rating of single row radiation unit, without cover, is 1020 British thermal units per lineal foot with 1-pound steam pressure and entering air at 65 F. These radiation units can be used at any required location on walls, ceiling or around skylight wells. Covers, brackets and offset adapters are available to meet all requirements. Made by Warren Webster & Co., Camden, N. J.

▲ Mention Item NED-2312 when writing ▲

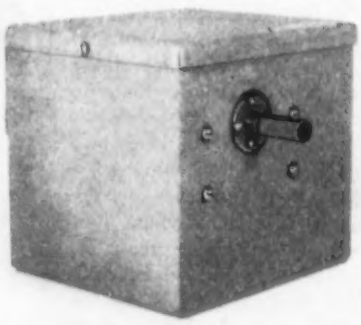
FIRE FIGHTING NOZZLE



Especially recommended for fighting fires in cellars, attics and under piers and bridges, this WaterFog Cellar Pipe fire fighting nozzle discharges high velocity water fog and rotates to distribute fog thoroughly. Nozzle is designed with arms that extend horizontally to prevent nozzle from dropping through hole chopped in roof or floor. Arms can be folded back against nozzle to make unit compact. Light in weight and corrosion resistant, nozzles are available in 1-1/2 and 2-1/2-inch sizes for standard hose lines and will operate effectively at pressures upward from 30 pounds per square inch. Made by Rockwood Sprinkler Co., 38 Harlow St., Worcester, Mass.

▲ Mention Item NED-2313 when writing ▲

VALVE ACTUATING UNIT



Motor driven valve actuating device will operate on either 110 or 220-volt 60-cycle alternating or direct current. Unit makes ½-revolution for each position and will develop 25 inch-pounds of torque or more. Shaft is ½-inch in diameter and 1½ inches in length. Limit switches can be provided to suit specifications for interlocking purposes. Sheet metal enclosure measures 5¼ x 6 x 5½ inches. Made by Ralph D. Ernest, 408 Penobscot Bldg., Detroit 26, Mich.

▲ Mention Item NED-2314 when writing ▲

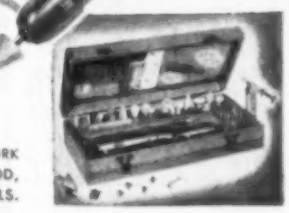
No matter how greasy a floor, it becomes slip-proof the minute it's SOL-SPEEDI-DRIED. This cuts costly accidents, saves man-power, and speeds production. Write for the facts . . . and a FREE SAMPLE.

SUPPLIERS:
East—Safety & Maintenance Co., Inc., No. 1 Wall St., New York 5, N. Y.
South, Midwest & West Coast—Waverly Petroleum Products Co., Drexel Bldg., Philadelphia 6, Pa.

SOL-SPEEDI-DRI
OIL AND GREASE ABSORBENT

▲ Mention Item NED-2315 when writing ▲

New



PRECISE 40

1/5 H.P. - 40,000 R.P.M.

USE IT FOR FASTER, SMOOTHER WORK ON STEEL, IRON, BRASS, BRONZE, WOOD, PLASTICS, GLASS AND OTHER MATERIALS.

GRINDS
MILLS
DEBURRS
ENGRAVES
POLISHES
FINISHES

Speed with power with precision—that's the new PRECISE 40. Surpasses our own PRECISE 35 which outworked every tool in the field. In strong, light plastic case, PRECISE 40 weighs only 40 oz.—packs a record 1/5 H.P. New type quill mounts precision collet chuck or grinding wheel arbors of various sizes; push-button spindle lock for quick tool change. 90% greater cooling; four oversize ball bearings. Quickly lubricated by pressure gun through ball-valve inlets. Tool mounts in vise, lathe, stand, or milling machine or can be used with PRECISE accessories for special applications. Guaranteed shockproof without ground wire.

Send for this 6-page Bulletin
PRECISE PRODUCTS COMPANY
1346 CLARK ST., RACINE, WISCONSIN

PRECISE 40

▲ Mention Item NED-2316 when writing ▲

Use BARNES HACK SAW BLADES
FOR FINER CUTTING PERFORMANCE
• POWER
• HAND

Free! BARNES HACK SAW PRODUCTION CALCULATOR!
A helpful guide for power hack saw users. Write for yours.

ESTABLISHED 1919
W. O. BARNES CO., INC.
DETROIT 14, MICHIGAN

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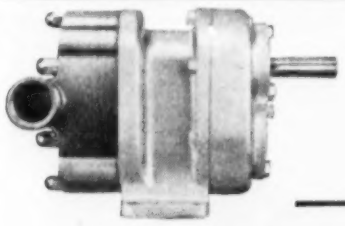

FLOW-MASTER "De-Luxe" Heavy Duty Pump. 500-4000 G.P.H. up to 100 psi. Stainless, rugged. Incorporates all the unique FLOW-MASTER features.

FLOW-MASTER PUMPS

Last Longer

The new FLOW-MASTER Precision Stainless Pumps *last longer* because the rotors are hydraulically balanced to eliminate severe metal-to-metal contact. Furthermore, a unique automatic wear control feature enables FLOW-MASTERS to maintain volumetric efficiency longer in spite of normal wear which must take place. FLOW-MASTERS meter with extreme accuracy. They have no glands or stuffing boxes. They are stainless, sanitary, easy to clean.

The new Marco Catalog No. 25-V contains complete details, engineering data, prices. Send for a copy.

MARCO COMPANY, Inc.
Third & Church Sts. • Wilmington 50, Del.

▲ Mention Item NED-2318 when writing ▲

Coal Handling for Small Heating Plants

SIMPLIFIED, CLEAN ECONOMICAL

—with a Detroit Electric Hoist, Coal Bucket, and a short length of monorail.

Installations are paying for themselves in actual dollars saved.

Added advantages; Ease in Handling, Time Saved, Clean Surroundings.

Get the facts from Detroit Hoist Bulletin No. 805.

DETROIT HOIST & MACHINE CO.

8208 MORROW ST., DETROIT 11, MICH.

▲ Mention Item NED-2319 when writing ▲

Ful-Vue Safety Goggles for Good Looking Eye Protection

Workers like A-O Ful-Vue Safety Goggles for their comfort and good appearance. Shaped to conform to orbit of the eye, lenses are brought closer to the face, leaving no unprotected area around bridge of nose. Three eye and three bridge sizes, with 6-curve Super Armorplate Clear or Calobar lenses — with or without side shields.

Your nearest A-O Safety Representative can supply you.

American Optical Company — Safety Division

SOUTHBRIDGE, MASSACHUSETTS. OFFICES IN PRINCIPAL CITIES

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TORQOMATIC

A UNIVERSALLY ADAPTABLE TORQUE-DRIVEN TOOL . . . BY *Jarvis*

The most advanced tapping attachment . . in design . . in trouble-free performance . . in ease of operation. It is ultra sensitive . . produces high quality threads . . operates without pressure on the tap . . produces more tapped holes per hour . . saves taps. The JARVIS TORQOMATIC is the most efficient tapping attachment developed to date and is, therefore, the most economical.

Write today for folder on JARVIS TORQOMATICS to Dept. 44, Jarvis Power Tools, Middletown, Connecticut.

The CHARLES L. JARVIS Co.

MIDDLETOWN, CONNECTICUT

TAPPING ATTACHMENTS • FLEXIBLE SHAFTS AND MACHINES

GROUND ROTARY FILES • QUICK CHANGE CHUCKS AND COLLETS

▲ Mention Item NED-2321 when writing ▲

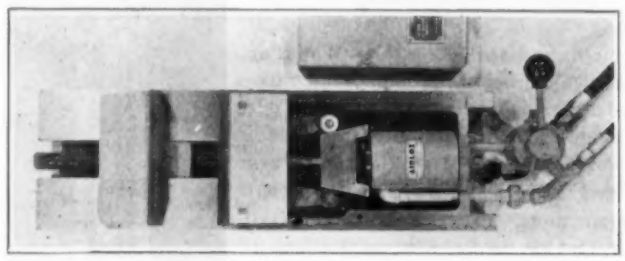
PALLET TYPE LIFT TRUCK

Steering handle of this Weld-Bilt pallet lift truck operates hydraulic lift, and accelerator type foot pedal controls lowering release. Front wheel equalizer not only keeps truck platform level but also reduces whipping action of steering handle. Truck has 2-ton capacity and is equipped with six wheels which have sealed ball bearings. Made by **West Bend Equipment Corp.**, 220 S. Walter St., West Bend, Wis.

▲ Mention Item NED-2322 when writing ▲

HYDRAULIC VISE

Six-hundred-pound oil line pressure exerts up to 10,000-pound squeeze at jaw of this Airlox Senior hydraulically operated vise. Four available sizes have adjustable jaw stroke



from 1/16 to ½-inch and can be adapted for use in milling, broaching, planing, tapping, shaping, drilling, assembling and bench operations.

Feature of vise is that hydraulic cylinder is interchangeable with Airlox air cylinder as to overall length so that it is relatively simple matter to install either pneumatic or hydraulic cylinder depending upon application. Made by **Production Devices, Inc.**, Dept. N, Whitehall, N. Y.

▲ Mention Item NED-2323 when writing ▲

SELF-ALIGNING BEARING

Two-piece Monoball bearing assemblies are now available in large quantities to manufacturers of equipment or engines using misalignment bearings or rod ends with misalignment bearings. Applications for bearings include installation with oscillating rods and tubes of low speed revolution where lubrication by oil or grease is not possible and where rigidity is desired.

Ball is hard chrome plated and is completely enclosed. Race materials are high strength bronze, steel or stainless steel. Bore sizes range from $\frac{3}{16}$ to 3 inches and accommodate loads from 7000 to 500,000 pounds. Made by **Southwest Products Co.**, Dept. NED, 10 S. Catalina Ave., Pasadena 1, Calif.

▲ Mention Item NED-2324 when writing ▲

YOU FURNISH THE STEEL

LYON

will make the product

Lyon facilities for the production of a wide range of sheet steel products are far in excess of our steel receipts. In spite of the excellent job being done by the steel producers, there just isn't enough to go around If you have steel on hand, or available, Lyon can help you in one of two ways:

1. SPECIALIZED CONTRACT PRODUCTION

We will manufacture to your specifications: assemblies, sub-assemblies or parts, in gauges No 8 and lighter up to 30; in Lyon production run quantities.

2. STANDARD LYON PRODUCTS

To complete your plant expansion or Conversion Program we will accept your steel and supply you with any selection of "Lyon Standard Products", a few of which are: Steel Shelving, Lockers, Shop Equipment, Kitchen Cabinets, Filing Cabinets, and Gravity Conveyors.

Get in touch with your Lyon dealer or your closest Lyon District Office.

LYON METAL PRODUCTS, INCORPORATED

General Offices: 422 Monroe Avenue, Aurora, Illinois

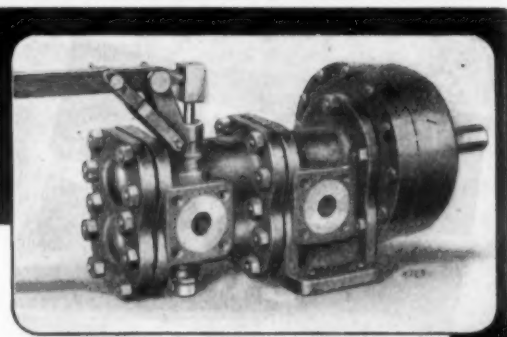
Branches and Dealers in All Principal Cities

▲ Mention Item NED-2325 when writing ▲

Universal Collet Chucks grip tools on a continuous surface—not at just a few points. That means a greater, more positive gripping power. Tools can't work free under heavy feeds, high speeds, or extreme vibration. They firmly grip tool flutes, permitting stubbing. Universal Collet Chucks tighten faster and easier, too—reduce locking effort 50%! Write for particulars.

UNIVERSAL ENGINEERING CO., FRANKENMUTH, MICHIGAN

▲ Mention Item NED-2326 when writing ▲



IMO reversible hydraulic motor permitting infinite speed variation in either direction

IMO POWER UNIT

The IMO principle embodied in a hydraulic motor makes an exceptionally simple, compact and reliable device for hydraulic power transmission.

IMO hydraulic motors can be furnished for operation at varying speeds in either direction with corresponding variation in output.

For information send for catalog I-130

IMO — I MOVE OIL

IMO PUMP DIVISION of the

DE LAVAL STEAM TURBINE CO.

TRENTON 2, NEW JERSEY

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Wire Forms Finished TO YOUR SPECIFICATIONS

● Supplying wire forms in a wide variety of finishes is routine business with us. Whether you want nickel, cadmium or zinc plating, bonderized enamel, parkerized or copper coated finishes—you can count on Jeschke.

Complete forming, stamping, cut-threading and butt welding of light metal parts are also among our services. Fast, automatic machines and years of experience assure precision, volume production and satisfaction.

Let's look into that problem of yours. Send sample, blueprint or drawing. No obligation, of course.

JESCHKE

WIRE AND SPECIALTY CO.

200 POSTON DRIVE

CRAWFORDSVILLE, INDIANA

▲ Mention Item NED-2328 when writing ▲

"Commercial" Fan Housings have been carefully engineered for the ventilating and unit heater industry, and the sizes now offered permit close to maximum efficiency of the unit on which they are installed.

The "Commercial" method of manufacture by cold forming eliminates all folds, cracks and welds—this method also increases the inherent strength and stiffness of the metal, reinforcing channels or braces are unnecessary—motor can be carried on the housing. The "Commercial" one piece Venturi type Fan Housing can be furnished in 12 different sizes and in three gauges.

Write for Prices.

THE COMMERCIAL SHEARING & STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

▲ Mention Item NED-2329 when writing ▲

ARE YOU STUCK FOR

PARTS ?

ARE YOU undersupplied on some, and oversupplied on others . . . with the resulting heavy inventory? Sales low? Unit cost rising? Worker efficiency low because of lack of parts to assemble your product?

ARE YOUR parts suppliers unable or unwilling to make short runs of a few hundred or a few thousand pieces?

YOU DON'T NEED TO BE STYMIED by lack of castings, forgings and particular shapes and materials. Why not try a new proven source?

MASTERS' engineers, methods, machines and men are versatile to the Nth degree. Thousands of top quality items have been produced by us for hundreds of leading manufacturers.

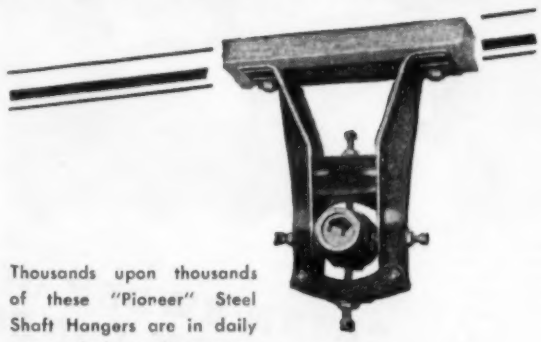
LET US FIGURE ON YOUR REQUIREMENTS FOR DURAL, BRASS, STEEL OR STAINLESS STEEL PARTS

IRVIN W. MASTERS, Inc.
3051 ANDRITA ST., LOS ANGELES 41, CALIF.

• Fluid conductor fittings catalog sent on request.

▲ Mention Item NED-2330 when writing ▲

"PIONEER"
STEEL SHAFT HANGERS



Thousands upon thousands of these "Pioneer" Steel Shaft Hangers are in daily use—and have been ever since 1914. They are unbreakable—their superior strength and rigidity make them dependable. They are one-third lighter than the old style cast-iron hangers, and therefore cost less f.o.b. ceiling—and that's what counts. Cut costs of handling, hauling and millwrighting by using "Pioneer" Steel Shaft Hangers, made by the manufacturers of the famous "Hallowell" Ready-Made Shop Equipment of Steel and "Unbrako" Screw Products.

OVER 44 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.
JENKINTOWN, PA. BOX 581
BOSTON CHICAGO • DETROIT • INDIANAPOLIS • ST. LOUIS • SAN FRANCISCO

▲ Mention Item NED-2331 when writing ▲

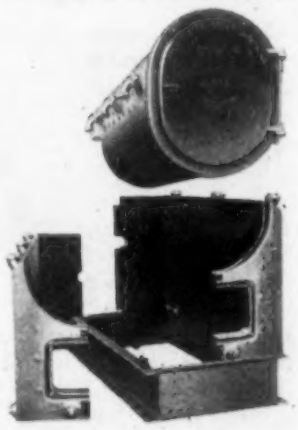
HEAVY MATERIALS SPRAY GUN

Two models of this heavy materials Muff-Gun are available for use with either pump or pressure hook-up. Obstructions in fluid passages are held to minimum and gun requires minimum amount of air for operation. Application of all types of heavy materials can be effected.

Model B-2500A has ¾-inch male straight pipe thread on fluid inlet and air inlet is ⅜-inch straight pipe thread. Fluid connection on model B-2500L is ½-inch female tapered pipe fitting on fluid inlet and air inlet is ¼-inch tapered pipe thread. Both models weigh 26 ounces. Made by **Black Mfg. Co.**, 1423 W. Baltimore St., Baltimore 23, Md.

▲ Mention Item NED-2332 when writing ▲

SPLIT FIREBOX BOILER



Particularly adapted for installation in finished buildings where access to boiler room is restricted, this knock-down type split firebox boiler can be taken apart and passed through ordinary doorways and reassembled without further welding. Boilers are available in wide range of sizes in both oval and round boiler shapes and can be adapted to any kind of firing. When assembled for operation, boilers will maintain shop and boiler insurance inspection standards. Made by Pacific Steel Boiler Div., **United States Radiator Corp.**, 127 Campbell Ave., Detroit 26, Mich.

▲ Mention Item NED-2333 when writing ▲

KEYWAY BROACH KIT

Hand cutting of keyways of any standard width and any depth in gears, milling cutters, pulley hubs, collars, couplings and other parts can be accomplished readily with this Minute-Man keyway broach kit. It is used with hand operated arbor press. Proper size bushing for any given bore is selected from kit and dropped into bore. Broach of desired width is inserted in slot provided in bushing and pressed through with arbor press using shims and second pass to get exact depth required. Entire operation takes no more than 1 minute. Broaches, bushings, shims and keyway stock are all provided in kit. Made by **du Mont Corp.**, Greenfield, Mass.

▲ Mention Item NED-2334 when writing ▲

THIS SCREW IS REALLY *Twins*

It may look like just one screw to you — but it's really twins, because it's doing the work of two screws — doing it cheaper and doing it better. A well-known manufacturer of household appliances (name on request) thought his product had too many screws and asked our Engineering Department. We thought so, too, and developed this single screw which works better and costs less. It will take only a three-cent stamp and a minute of your secretary's time to find out what we can do for you.

NEW ENGLAND SCREW COMPANY
Manufacturers of Special Screws

▲ Mention Item NED-2335 when writing ▲

BELT LACING and FASTENERS for transmission and conveyor belts

ALLIGATOR
Trade Mark Reg. U. S. Pat. Office
STEEL BELT LACING

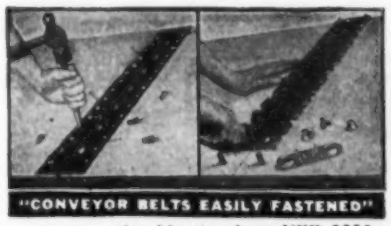
World famed in general service for strength and long life. A flexible steel-hinged joint, smooth on both sides. 12 sizes. Made in steel, "Monel Metal" and non-magnetic alloys. Long lengths supplied if needed. Bulletin A-60 gives complete details.

FLEXCO HD
BELT FASTENERS AND RIP PLATES

For conveyor and elevator belts of all thicknesses, makes a tight butt joint of great strength and durability. Compresses belt ends between toothed cupped plates. Templates and FLEXCO Clips speed application. 6 sizes. Made in steel, "Monel Metal", non-magnetic and abrasion resisting alloys.

By using Flexco HD Rip Plates, damaged conveyor belting can be returned to satisfactory service. The extra length gives a long grip on edges of rip or patch. Flexco Tools and Rip Plate Tool are used. For complete information ask for Bulletin F-100.

Sold by supply houses everywhere



FLEXIBLE STEEL LACING CO.
4664 Lexington Street
Chicago 44, Illinois

▲ Mention Item NED-2336 when writing ▲

The POWERFUL GRIP of The Merrill-Volz drop forged Plate or Barrel Clamp

MADE ENTIRELY FROM STEEL DROP FORGINGS

5 TO 1 FACTOR OF SAFETY

MERRILL Brothers
(Under same Family Management for over ¾ of a Century)
56-13 Arnold Avenue Maspeth, N. Y.

▲ Mention Item NED-2337 when writing ▲

Your Weldors Will Want this FREE 16-PAGE BOOKLET

"HOW TO CLEAN WELDS"

It will help you teach apprentices the *right methods first* and give experienced weldors welcome suggestions on short-cuts that save their time. This valuable 16-page handbook will help you prevent mistakes that waste metal and cause delays. It will improve workmanship and help you reduce costs. Send today for the copies you will need.

MAIL COUPON NOW!

CHICAGO MANUFACTURING & DISTRIBUTING CO.,
Dept. 4NED, 1928 West 46th St., Chicago 9, Ill.
Please send (.....) copies of "How to Clean Welds"
Name.....
Firm Name.....
Street.....
City.....Zone.....State.....

▲ Mention Item NED-2338 when writing ▲

STANLEY ARMOR CLAD TIPS

Here's why—Stanley *Armor Clad Tips* are coated with a protective metal sheath. They never lose their shape. Corrosion is eliminated. No filing required. Increase your soldering production time and minimize replacements with Stanley *Armor Clad Tips.* A wide variety of sizes and shapes for Stanley and other standard makes of soldering irons. Write for illustrated folder. Stanley Tools, New Britain, Connecticut.

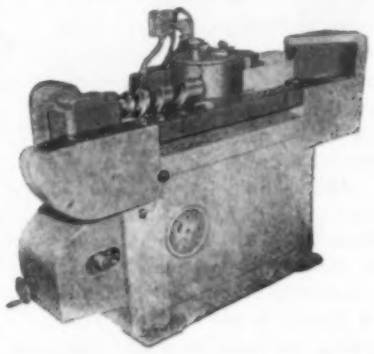
STANLEY
Trade Mark

HARDWARE · HAND TOOLS · ELECTRIC TOOLS

▲ Mention Item NED-2339 when writing ▲

BOTTLE LABELING MACHINE

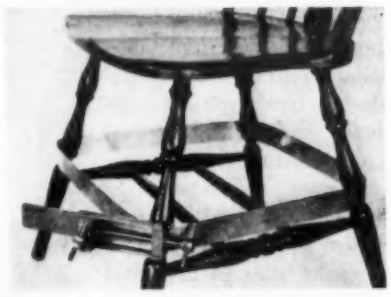
Fully automatic high speed Label-Dri machine is designed to apply labels to bottles at rate of 300 per minute. Round or flat bottles can be handled and are fed to machine by screw to eliminate bottle clashing. Machine utilizes thermoplastic coated labels.



Bottles to be labeled are engaged by screw on conveyor line and are spaced and synchronized with revolving turret which applies labels. Turret is heated so that thermoplastic coating on labels becomes tacky and then labels are transferred to bottles by air jets which literally blow labels against bottles in registered position. Made by **New Jersey Machine Corp.**, Thirteenth St. & Willow Ave., Hoboken, N. J.

▲ Mention Item NED-2341 when writing ▲

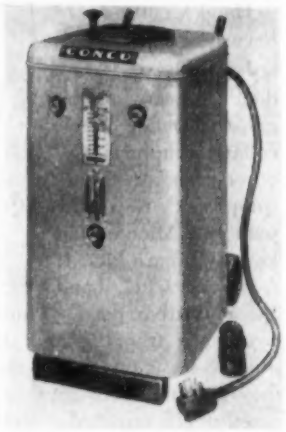
WRAP-AROUND CLAMP



Consisting of snap-on interchangeable stainless steel strap, square swivel assembly and take-up locking screws, this Marman multipurpose wrap around clamp will apply pressure to wide range of shapes and sizes of objects. Large diametrical take-up range is provided. Pressure can be released by backing off locking screw one turn. Steel straps are available in 1-1/2 or 2-inch widths and in any desired length. Suggested applications include use in gluing operations, holding bar stock for multiple grinding operations and for forming various plywood shapes prior to installation. Made by **Marman Products Co.**, Dept. NED, 940 W. Redondo Blvd., Inglewood, Calif.

▲ Mention Item NED-2342 when writing ▲

PORTABLE ARC WELDING UNIT



Stepless current regulation is feature of this Conco alternating current portable arc welder. Unit is claimed to use 50 to 70 per cent less power than former models. It can be plugged into any 230-volt 60-cycle alternating current outlet. Amperage range is from 20 to 150 amperes and it can be employed for cutting, welding, brazing and soldering operations. Construction is heavy duty throughout. Welder meets REA and NEMA requirements and is Underwriter's Laboratory approved. Made by **Conco Engineering Works**, Mendota, Ill.

▲ Mention Item NED-2343 when writing ▲

GENERAL

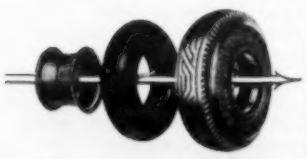
INDUSTRIAL PNEUMATICS

- **Speed Production**
- **Increase Plant Efficiency**

Double-handled, solid nose WHEEL-EZY hand truck, manufactured by The Rapids-Standard Company, Inc., Grand Rapids, Michigan, equipped with General Industrial Pneumatic Tires.

Move More Loads, Faster, Easier, Safer

In buying or designing new material handling or other mobile equipment—Study these advantages of General Industrial Pneumatic Tires:
General Industrial Pneumatics . . .
Move loads faster and more economically . . . Protect floors and floor coverings . . . Roll easier over soft ground or rough surfaces...Protect fragile, easily damaged loads ...Guard against spillage due to shocks or bumps...Roll silently—Eliminate noise... Eliminate shock and jar to operator . . . Designed for both high and low speed.



Factory assembled units: Heavy-duty Tire, Separate Tube, Heavy Duty Demountable Wheel and Rim; 8" to 22" o. d. for loads of 180-1900 lbs. per tire.

Wide base rim design, originated by General, has greater load capacity, guards against side-sway, permits low-bed mobile equipment design with low center of gravity that provides stability and straight-tracking in trailer trains. General has the ONLY demountable wheel. Separate heavy gauge inner tubes guarantee maximum air retention.

THE GENERAL TIRE & RUBBER COMPANY
Dept. 5, Akron, Ohio

The GENERAL TIRE — INDUSTRIAL PNEUMATIC TIRE · TUBE · WHEEL UNITS

▲ Mention Item NED-2340 when writing ▲

CLEVELAND Top Quality FASTENERS

Send blue prints and specifications of your specially designed parts to
THE CLEVELAND CAP SCREW COMPANY
2917 EAST 79TH STREET • CLEVELAND 4, OHIO

▲ Mention Item NED-2344 when writing ▲

Get more Tonnage for your snagging wheel dollar

SIMONDS ABRASIVE COMPANY is a division of SIMONDS SAW AND STEEL CO. Other divisions: Simonds Steel Mills, Simonds Canada Saw Co., Ltd.

Simonds Abrasive resinoid bonded wheels with patented Red Streak Flanges speed up production on all types of floor stand and swing frame grinders. Easier mounting (steel against steel), less wear on mount centers, no chipped sides and edges at center hole, plus better balance for truer, better grinding action result in greater tonnage, lower cost.

Ask any Simonds Abrasive Distributor for more details on resinoid bonded Red Streak Flange Wheels or send for our Snagging Wheel Bulletin.

SIMONDS ABRASIVE COMPANY • PHILADELPHIA 37, PA. • DISTRIBUTORS IN ALL PRINCIPAL CITIES

▲ Mention Item NED-2345 when writing ▲

TEST FERROUS PARTS FOR HARDNESS
. . . at 1200 per hour

MAGNETIC COMPARATOR
Only $195
(plus coils)

TWO WEEK SHIPMENT can be given you now on this rapid, quality control instrument

Here's a quick method of controlling quality of ferrous metal parts, or separating mixed steels. Nondestructive and simple. Just preselect a standard of the same size and shape, and the Magnetic Comparator will detect differences in hardness, composition, heat-treatment . . . or any characteristics which alter the resistivity or magnetic properties.

Ideal for production line! You can check rods, bolts, springs and similar fabricated parts at the rate of 1200 per hour. Distinguishes between steels whose hardness differs by as little as two points Rockwell.

The Magnetic Comparator is a small, portable instrument. Compares the similarity of ferrous alloys by means of magnetic coils. Inspected parts must be identical in size and shape, but slight irregularities are acceptable. Not affected by surface conditions. Makes quality control quick and easy. **Write for bulletin GEA-4169, or order from your nearest G-E Office.** *Apparatus Department, General Electric Company, Schenectady, N. Y.*

GENERAL ELECTRIC
800-33-8861

▲ Mention Item NED-2346 when writing ▲

18-inch diameter Magnet operated directly from battery of this standard high-lift truck.

for a CLEAN SWEEP OF PRODUCTION LANES

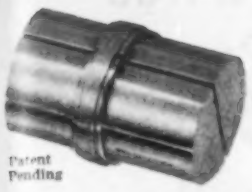
● These easily handled mobile units (small magnets mounted on industrial trucks) scurry around the plant through narrow passages, into the corners, around machinery, picking up bolts, nuts, turnings, and tire-injuring scrap. They "sweep" hazards to men and equipment from the floors and save valuable materials.

EC&M Circular Magnets come in ten sizes for all industrial needs. Ask for Bulletin

EC&M — THE ELECTRIC CONTROLLER & MFG. CO.
2698 East 79th Street Cleveland 4, Ohio

▲ Mention Item NED-2347 when writing ▲

ASCO "AUTO-ARB" can triple production on many secondary operations



Automatically Expanding Arbor for holding work piece by inside diameter while machining outside surface.

PERMITS CHUCKING and UNCHUCKING *WITHOUT STOPPING SPINDLE!*

Any machinable part can be held firmly by the inside diameter, for secondary operations, with the ASCO "AUTO-ARB". "AUTO-ARB" is a precision tool, expanding accurately, and maintaining perfect concentricity with the collet. No other tools are necessary—chucking and unchucking can be done without stopping the machine. Works equally well in "blind" holes, and requires a minimum of holding surface—eliminating the need for special arbors. Can also be used on drill presses or milling machines with collet devices.

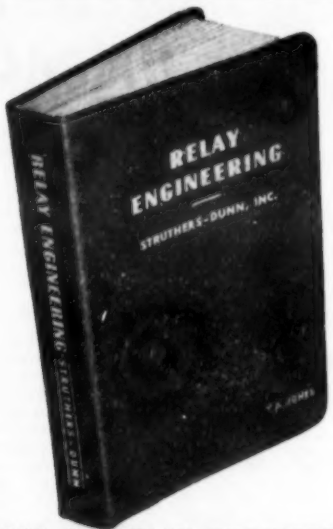
Auto-Arb is available in range of standard sizes, from 3/8" to 1 1/2", at 1/64" intervals. Only 5 collet sizes are required to accommodate this range. Larger sizes available on special order.

Auto-Arb has been proved by production tests—more than tripling production and eliminating downtime of machines. No failures have been reported from the hundreds already in actual service.

Write for descriptive Bulletin

THE ASCO CORPORATION
17708 WATERLOO ROAD • CLEVELAND 19, OHIO

▲ Mention Item NED-2348 when writing ▲



640 PAGES OF RELAY ENGINEERING INFORMATION . . . *Have you gotten your copy?*

Price $3.00

STRUTHERS-DUNN, INC., 146-150 N. 13th St., Philadelphia 7, Pa.

STRUTHERS-DUNN

5,327 RELAY TYPES

ATLANTA • BALTIMORE • BOSTON • BUFFALO • CHICAGO • CINCINNATI
CLEVELAND • DALLAS • DENVER • DETROIT • HARTFORD • INDIANAPOLIS
LOS ANGELES • MINNEAPOLIS • MONTREAL • NEW YORK • PITTSBURGH
ST. LOUIS • SAN FRANCISCO • SEATTLE • SYRACUSE • TORONTO

▲ Mention Item NED-2349 when writing ▲

NEW FREIGHT MARKING RULE . . . .

"FREIGHT must be stenciled or otherwise plainly and durably marked"

—from Rule 6, MARKING FREIGHT, Consolidated Freight Classification No. 16, effective January 15, 1945

The Railroad and Truck Lines need your help NOW. Expedite your shipments with Marsh Stencil Marking. Three sizes: 1/2", 3/4", 1". For sample stencils, Shippers' Handbook, prices, pin this to business letterhead with your name.

MARSH STENCIL MACHINE COMPANY
23 Marsh Bldg., Belleville, Ill., U.S.A.
Immediate delivery from stocks in principal cities

MARSH STENCIL MARKING

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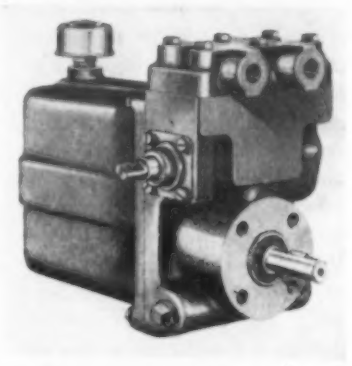
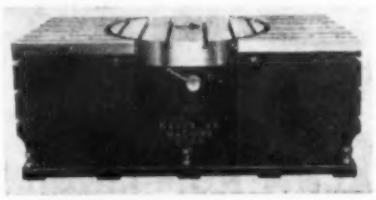
HYDRAULIC POWER UNIT



Developing hydraulic pressure to lift, lower, push, pull, stack, load and hold load, this packaged Power Pack unit has hydraulic pump which can be attached to any power source directly, with V-belt, chain drive or gears. Assembly consists of vane pump, relief valve, various combinations of single and double operating valves, oil filter, air cleaner and oil tank. Nominal pump delivery can be 2, 3, or 5 gallons per minute at 1200 revolutions per minute with 1000 pounds per square inch pressure. Recommended applications include use on materials handling equipment, industrial machinery and maintenance equipment. Made by **Vickers, Inc.**, 1456 Oakman Blvd., Detroit 32, Mich.

▲ Mention Item NED-2351 when writing ▲

INDEXING TABLE



Designed to support heavy workpieces without deflection on series 125 portable horizontal drilling and tapping machines, model 700 indexing table is now adapted for use on other types of machine tools. It is suitable also for inspection and layout work. Work can be held in either horizontal or vertical position as main bed is provided with T-slots in top and at each end for clamping purposes. Machine operating time can be saved when setup on one end of table is being performed while work is being completed at other end. Thirty-six-inch diameter indexing platen located in center of main bed is manually operated and can be locked in any position. Overall dimensions of table are 72 x 36¼ inches and it stands at height of 29 inches. Bed and indexing platen are of heavy ribbed construction. Made by **Kaukauna Machine Corp.**, 1000 Lincoln St., Kaukauna, Wis.

▲ Mention Item NED-2352 when writing ▲

FIRE EXTINGUISHER

Increased capacity of 25 per cent is feature of CD-Sno Fog carbon dioxide fire extinguishers. Sizes of 2½ and 5 pounds replace previous models which contained 2 and 4 pounds of carbon dioxide respectively. New models fit same brackets as units they replace. Extinguishers are adaptable for combatting electrical and industrial fires. Change in design of smaller extinguisher makes 2½-pound size lighter than 2-pound model which it replaces. Made by **General Detroit Corp.**, 2270 E. Jefferson Ave., Detroit 7, Mich.

▲ Mention Item NED-2353 when writing ▲

Packaged Heat

FOR EFFICIENT PRODUCTION

FAST! . . . ECONOMICAL

Compact CHROMALOX Electric Heaters are quickly installed in dies, molds, platens, tanks, moving parts and other spots needing dependable heat. Accurate control, process uniformity and operating economy are a few of the advantages gained by their use.

YOUR REQUEST brings full information on this "packaged heat"—the booklet "100 Ways to Apply Electric Heat"—and address of CHROMALOX Application Engineer serving you.

EDWIN L. WIEGAND CO., 7509 THOMAS BLVD., PITTSBURGH 8, PA.

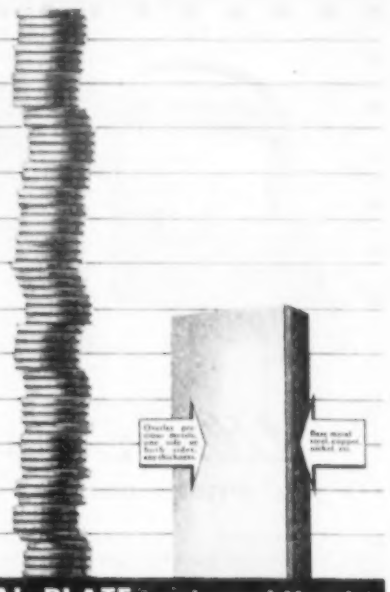
See other Advertisement on Page 4

CHROMALOX 18-53

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ Mention Item NED-2354 when writing ▲

BEAT TODAY'S HIGH COST of SILVER



. . . use GENERAL PLATE Laminated Metals

Designers, fabricators, manufacturers needn't worry about rising silver prices because *General Plate Laminated Metals give you all the performance characteristics of solid silver at unusually low cost.*

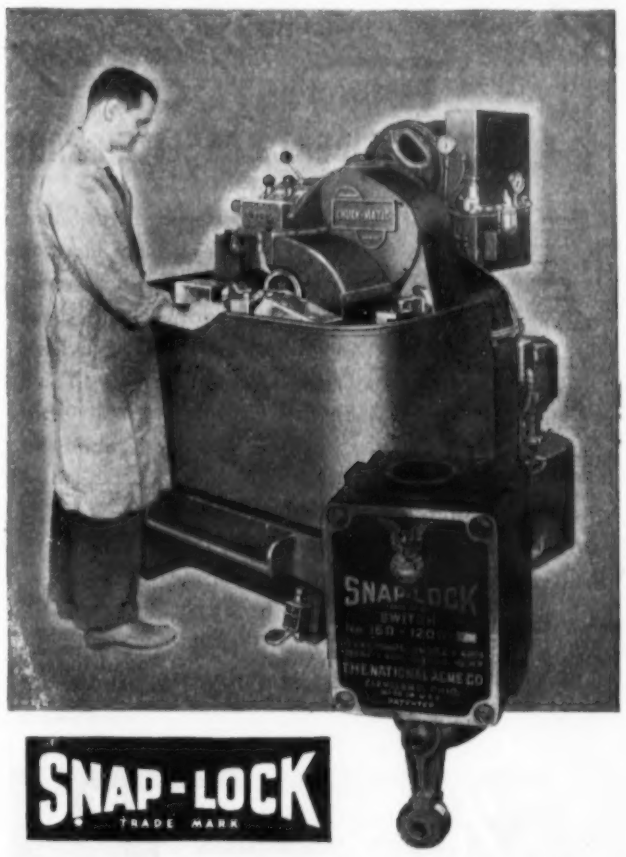
Because General Plate Laminated Metals . . . sheet, wire and tube . . . are permanently bonded laminations of a thin layer of precious metal to a thicker layer of base metal, they give you precious metal performance at exceptionally low cost.

In addition to economy, General Plate Laminated metals are easier to work, have high corrosion resistance, provide better electrical conductivity, are easier to fabricate, have better spring properties, and provide other properties not found in solid precious metals.

Investigate General Plate Laminated Metals, today. Write:

GENERAL PLATE DIVISION
of Metals and Controls Corporation
ATTLEBORO, MASSACHUSETTS

▲ Mention Item NED-2355 when writing ▲



SNAP-LOCK TRADE MARK

LIMIT SWITCHES do these jobs ON THE CHUCK-MATIC

The new Acme-Gridley Chuck-Matic single spindle machine is making exceptional records in heavy-duty, high production machining of castings and forgings up to 12" diameter.

Its accuracy and its split-second timing are controlled by Namco Snap-Lock Limit Switches—the one limit switch made for machine tool builders by machine tool builders.

On the Chuck-Matic, Snap-Locks do these jobs:

- **Control stopping mechanism for work spindle.**
- **Provide safety—to lock chuck opening and closing during working cycle.**
- **Operate solenoid which actuates the air control valve for chucking workpiece.**
- **Control solenoid operated valve to start and stop slide feed mechanism.**

Of course it is only natural for us to use Snap-Locks on our own machines—that's what they are designed and built for.

But it is a fact that Snap-Locks are used by more than 80% of all the builders of automatic machine tools. There is a reason for that, too—a reason explained in detail in Bulletin EM-42. Send for your copy.

THE NATIONAL ACME CO.
CLEVELAND, OHIO

▲ Mention Item NED-2356 when writing ▲

Alnor VELOMETER

the direct reading air velocity meter

Air speed in feet per minute is read directly and instantly on the scale of the Alnor Velometer. Anyone can use this simple instrument—there are no calculations, no leveling, no timing, and no conversion tables. This convenient instrument allows quick checking of draft, leaks, velocities at air conditioning outlets, and any other air movement. Quick, accurate air velocity measurements give a valuable check on efficiency of equipment.

The Velometer is made in several standard ranges from 20 fpm to 6000 fpm, and up to 3 inches total pressure. Special ranges available as low as 10 fpm and up to 25000 fpm velocity and 20 inches pressure. Write for bulletin with complete data.

ILLINOIS TESTING LABORATORIES, INC.
420 NORTH LA SALLE STREET
CHICAGO 10, ILLINOIS

▲ Mention Item NED-2357 when writing ▲

Immediate Delivery FROM STOCK

GREAVES-SILENT BAKELITE GEARS

No waiting when you order Greaves Silent Bakelite Gears. • We have them in stock NOW! • Your order will go forward immediately. • You'll appreciate the silent operation and added smoothness provided by Greaves Silent Bakelite Gears. • You'll marvel at their great strength to carry big power loads . . . their remarkable ability to successfully operate completely submerged in water. • You'll welcome their low cost. • No metal reinforcements required. • Save Time . . . Money . . . Labor!

We also make silent gears of rawhide and Fabriol.

Write for Circular.

FOR CONCERNS CUTTING THEIR OWN GEARS, WE CAN MAKE IMMEDIATE DELIVERY ON BLANKS SAWED TO SPECIFIED DIAMETER AND FACE

THE Greaves MACHINE TOOL CO.
2009-37 EASTERN AVENUE
CINCINNATI, OHIO

▲ Mention Item NED-2358 when writing ▲

HOW TO BUY AND SAVE MONEY ON

INDUSTRIAL RUBBER GLOVES

FIRST write for Surety's Industrial Glove Selector — the handy, easy-to-use device that tells you the proper glove for most any job.

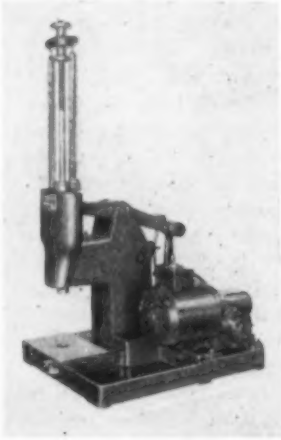
SECOND with the aid of the Selector, quickly match your job with the glove that will give greatest protection, longest life.

THIRD use Surety bulletins to select styles and sizes. Surety makes all kinds of rubber gloves . . . your choice is sure to be RIGHT.

THE SURETY RUBBER CO. CARROLLTON, OHIO

▲ Mention Item NED-2359 when writing ▲

SPRING PRESS



Operated by foot pedal, compressed air or electric motor, line of spring presses is designed for light work requiring riveting, staking, bending, forming, stamping, numbering and similar operations. Operation of presses is accomplished by lever that applies tension to vertical springs which are released by quick releasing latch. Force of blows is regulated easily and they are of uniform strength for same setting. Regulation is accomplished by adjustment of spring tension and length of stroke.

Available as bench and floor models, various spring tension units serve wide range of requirements. No. 00 has 5-pound springs producing maximum blow of approximately 25 pounds. No. 0 machine is foot operated and has two 15-pound springs producing up to 200-pound blow. No. 1A is foot operated and has 50-pound springs which deliver blow of 650 pounds. No. 11A press is motor driven, has 75-pound springs and delivers blow of 900 pounds. No. M-110 is motor driven, has 15-pound springs and delivers blow of 200 pounds. No. M-120 is similar to model M-110 but is air operated. Made by Taylor & Fenn Co., Hartford 1, Conn.

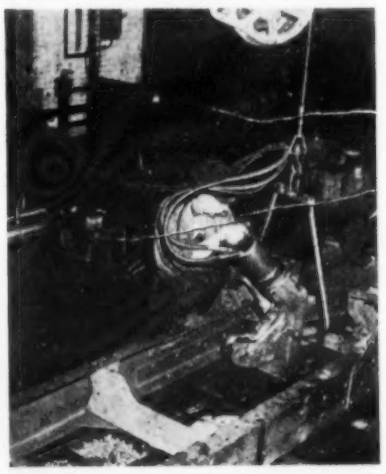
▲ Mention Item NED-2360 when writing ▲

ALUMINUM-LIKE FINISH

Producing finish which closely resembles brilliant aluminum, Britelume enamels can be baked or air dried. These finishes are suitable for use on most metals and are exceptionally resistant to action of heat and chemicals. Made by Maas & Waldstein Co., 438 Riverside Ave., Newark 4, N. J.

▲ Mention Item NED-2361 when writing ▲

NOISELESS RIVETING HAMMER



Enough pressure is exerted with single stroke of this hydraulically actuated noiseless riveting hammer to flatten a cold steel rivet into place. Riveter resembles large C-clamp and is recommended for use where work can be brought close to riveter. It slips over parts to be joined and holds head of rivet in place while other end is flattened under tremendous pressure.

Hydraulic pressure is transmitted to working area by oil resisting synthetic rubber hose which is reinforced with steel wire. It transmits pressure of several thousand pounds per square inch from generating equipment to riveter. Hose is manufactured by United States Rubber Co. Riveter made by Hannifin Mfg. Co., 622 S. Kolmar Ave., Chicago 24, Ill.

▲ Mention Item NED-2362 when writing ▲

MOVE MATERIALS FASTER AT LOWER COST THE "Weld-Bilt" WAY

Let a WELD-BILT engineer show you ways to speed up your materials handling methods while reducing your operating costs.

PORTABLE ELEVATORS • HYDRAULIC LIFT TRUCKS • 2 & 4 WHEEL TRUCKS • TIERING MACHINES • BARREL TRUCKS & RACKS

Leading American industries use and endorse WELD-BILT equipment. Write for illustrated folder.

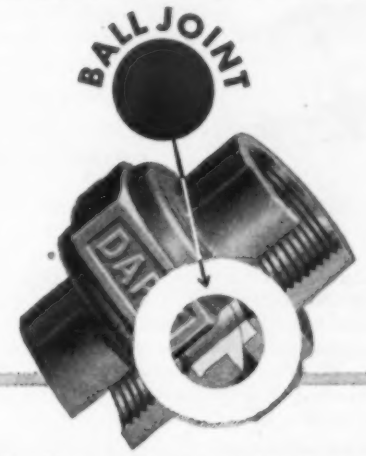
The WELD-BILT Heavy-Duty Hydraulic Lift Truck — 6,000 to 10,000 lb. Capacities.

WELD-BILT
Portable Elevator

WEST BEND EQUIPMENT CORP.
220 Water St., West Bend, Wis.
Materials Handling Engineers

▲ Mention Item NED-2363 when writing ▲

Bronze to Bronze Seated in a True



Makes Dart Unions

•FIT TIGHTER •LAST LONGER •COST LESS

Because its two bronze seats are precision-ground to form a true ball joint, the Dart Union makes a drop-tight connection without excessive wrenching. It uncouples just as easily —may be used over and over again wherever needed—is thus the least expensive in the long run. Made of high-test air-refined malleable iron, it is practically unbreakable. Ask your supplier to demonstrate Dart.

E. M. DART MFG. CO., Providence 5, R. I.

▲ Mention Item NED-2364 when writing ▲

MACHINING ALONE CAN'T CORRECT DY-NAMIC UNBALANCE

Save shop time, add years to product life, with a low-cost, quick-acting Bear Dy-Namic Balancer!

Get *FREE* Catalog!

Tests prove that workmanship, however fine, simply cannot insure dy-namic balance in rotating parts. And since destructive un-balance increases enormously as RPM steps up . . . and since the resulting "Wobblies" are discovered by the user and not in your shop . . . accurate dy-namic balancing is essential if your products are to serve better and sell easier.

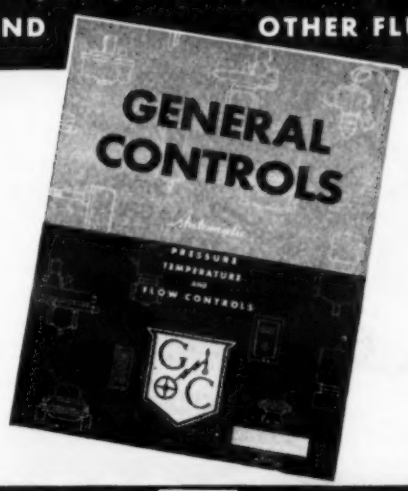
Now Dy-Namic Balancing Is Quick, Easy, Low-in-Cost!

With a low-priced Bear Dy-Namic Balancer, the job is done to meet any standard requirements, in routine production, in a matter of seconds, and any shop hand learns to operate a Bear Balancer in a few hours! Bear machines are available for balancing bodies from a few ounces to two tons. Write for the Bear Catalog! Bear Mfg. Co., Dept. N-5, Rock Island, Illinois.

BEAR COMBINATION
STATIC AND DY-NAMIC BALANCING MACHINES

▲ Mention Item NED-2365 when writing ▲

Write Today
FOR CATALOG 52C—
PRESENTING A COMPLETE LINE OF AUTOMATIC CONTROLS FOR GAS, OIL, WATER, AIR, STEAM, REFRIGERANT . . . AND OTHER FLUIDS.



GENERAL CONTROLS
801 ALLEN AVENUE GLENDALE 1, CALIF.
Manufacturers of Automatic Pressure, Temperature & Flow Controls
FACTORY BRANCHES: PHILADELPHIA • ATLANTA • BOSTON • CHICAGO • DALLAS • KANSAS CITY • NEW YORK • DENVER • DETROIT • CLEVELAND • PITTSBURGH • HOUSTON • SEATTLE • SAN FRANCISCO • DISTRIBUTORS IN PRINCIPAL CITIES

▲ Mention Item NED-2366 when writing ▲

Tachometers
MAINTAIN RPM AND PRODUCTION RATES IN YOUR PLANT

STATIONARY MODELS

Dials 3", 4", 5½", 8", 10", and 20" in diameter.

Dials to read RPM, FPM, YPM, sheets per minute, gallons per minute, books per minute, or any other special operation.

Write for Bulletins Nos. 795, 796, 797, 798

STOP WATCHES IMPORTED SWISS

Large assortment of Gallet and Minerva watches of highest quality and accuracy 1/5 second, 1/10 second, 1/100 second timers. Also decimals (minute divided into 100 parts).

WRITE FOR BULLETIN No. 575

PORTABLE MODELS

Centrifugal or Chronometric type with 1, 3, or 5 ranges in one instrument, all speeds from 0-100,000 RPM.

Write for Bulletins Nos. 780, 760, 790, 750, 755, 735

NEW CONDENSED CATALOG No. 1046 SHOWS ALL TACHOMETERS

HERMAN H. STICHT CO., INC.
Tachometer Headquarters
27 PARK PLACE NEW YORK 7, N. Y.

▲ Mention Item NED-2367 when writing ▲

It's New! Better! Different!
Black Arrow HOLLOW AIR Spray Gun

Perfect Spray Patterns--Faster, Easier, Less Cost!

Production painters call Black Arrow's HOLLOW AIR Spray Gun the most sensational development in the spray gun field. That's because of its patented HOLLOW AIR Atomizer Head which, in terms of spray results, gives you five big advantages.

1. The widest, wettest, most uniformly distributed spray pattern you've ever seen.
2. Complete atomization of paint over the entire pattern.
3. No spotting at edges, no runs, sagging or orange peel.
4. More economical spray because HOLLOW AIR usually requires less pressure.
5. Much softer spray because HOLLOW AIR blends paint and air perfectly.

See your jobber! Write for catalog.

The Secret of **HOLLOW AIR** *Atomization*

Two hollow cones of air, perfectly delivered in relation to the center paint jet by the patented HOLLOW AIR Atomizer Head, are responsible for HOLLOW AIR's superior results. These cones of air carburize paint evenly, thoroughly—produce symmetrical patterns, uniformly distributed. This enables operators to produce perfect spray patterns, easily, consistently.

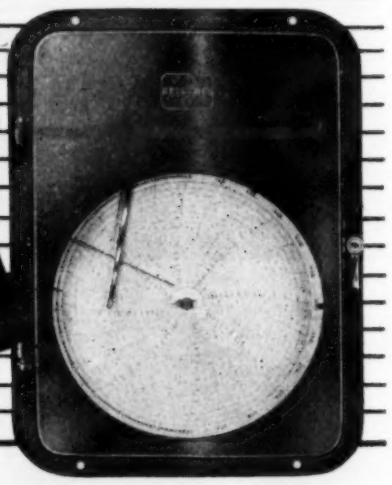
BLACK

The Black Manufacturing Company
1428 W. BALTIMORE ST. • BALTIMORE 23, MD.

Beyond Compare—HOLLOW AIR

▲ Mention Item NED-2368 when writing ▲

NOW- IMMEDIATE DELIVERY! ...on these Bristol instruments:



Bristol Recording and Controlling Instruments

- Temperature Controllers (Thermometer — Pyrometer)
- Recording and Indicating Pyrometers
- Air-Operated Thermometer Controllers
- pH Recorders and Controllers
- Recording Ammeters and Voltmeters
- Pyrometer Controllers (Electric & Air-Operated)
- Recording Gauges
- Recording Thermometers
- Running-Time Recorders

Write for Stock Instrument Bulletin No. 1811.

THE BRISTOL COMPANY
108 Bristol Road, Waterbury 91, Connecticut

▲ Mention Item NED-2369 when writing ▲

PORTABLE OSCILLOSCOPE

Incorporating 3-inch screen, model S-11-A Pocketscope oscilloscope is fully portable. Instrument can be used for measurement of alternating and direct current as well as for electronic testing, measurement and research. Features include push-pull amplifiers for horizontal and vertical deflection, intensity modulation amplifier, linear-time sweep from 3 cycles to 50 kilocycles, centering controls which prevent astigmatism, trace expansion for detail observation and attenuators for alternating or direct current.

Instrument measures 11 x 7 x 5 inches and weighs 8-3/4 pounds. Made by **Waterman Products Co.**, 2445 Emerald St., Philadelphia, Pa.

▲ Mention Item NED-2370 when writing ▲

HIGH SPEED CUTTING LIQUID

Recommended for use in threading pipe and bolts, Rosco No. 199 high speed cutting liquid is an emulsion in concentrated form that is mixed with water before placement in coolant tank. Material acts as both lubricant and coolant. Use of this cutting liquid eliminates need for degreasing threaded piece after operation and there is no possibility of staining. Material has no odor, is noninflammable and is said to extend life of cutting dies. It cannot be employed in hand threading. Made by **Ross W. Swogger**, 15017 Detroit Ave., Cleveland 7, O.

▲ Mention Item NED-2371 when writing ▲

RUBBER-TIRED STEEL WHEEL

Available in overall diameters of 4, 6, 8, 10 and 16 inches, rubber-tired steel disk wheels are adaptable for use on small hand trucks, wheelbarrows, motor scooters, shopping carts and other similar vehicles. Choice of cold rolled steel axle lengths and diameters is available from stock and special lengths can be supplied on order. All axles are equipped with acorn nuts.

Wheels have one-piece bushing with an inside shoulder against which wheel disk is braced to prevent collapse. Bushings are permanently swedged. Semipneumatic tires are furnished on 6 and 8-inch size wheels and solid rubber tire is furnished on 4 and 6-inch sizes. Heavy duty hand or flat truck wheels with flat solid rubber tires are available in 8-inch diameter size. Sixteen-inch wheels have 4-inch pneumatic tires. Made by **Circle Metal Mfg. Co.**, 4300 E. Pacific Way, Los Angeles 23, Calif.

▲ Mention Item NED-2372 when writing ▲

... when Costs are Cut — Appearance and Durability Improved — by **AMERICAN PHILLIPS SCREWS**

IN THE FACTORY: The most modern fastening for all types of furniture is the American Phillips Screw. Easy to handle ... lightning-fast and automatically straight to drive ... fumble-proof, slip-proof and damage-proof ... American Phillips Screws deliver top savings on any fastening job in any type of plant from furniture to railroad cars. Put these engineered screws on *your* costs —*and watch your time-savings shoot up as high as 50%.*

IN THE SALESROOM: Hallmark of fine furniture is the decorative, straight-set, unburred head of the American Phillips Screw. *Your* product, too, should have this cost-cutting, sales-building advantage.

AMERICAN SCREW COMPANY, PROVIDENCE 1, RHODE ISLAND
Chicago 7: 549 S. Illinois St. Detroit 2: 503 Stephenson Bldg.

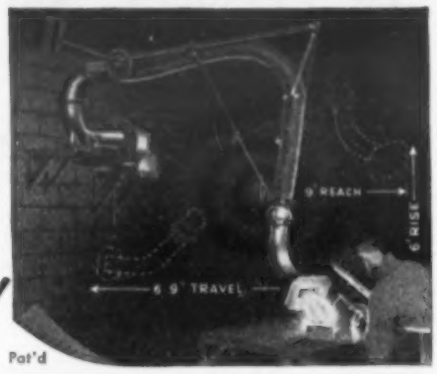
AMERICAN PHILLIPS *Screws*

ALL TYPES ALL METALS: Steel, Brass, Bronze, Stainless Steel, Aluminum, Monel, Everdur (silicon bronze)

▲ Mention Item NED-2373 when writing ▲

RUEMELIN Fume Collector

Removes WELDING FUMES *at the Source!*



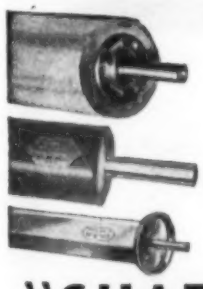
Pat'd

No longer need employees inhale welding fumes. A Ruemelin Fume Collector solves the problem, quickly and efficiently. Produces powerful suction that draws out noxious gases, smoke and heat *at the source.* Guards employee health, resulting in less welder fatigue, therefore greater plant output. Clears shop air with minimum loss of building heat. Covers maximum welding territory, vertically, horizontally and by circle swing. Shipped assembled, easy to install. 9 ft. and 15 ft. sizes (radius of swing).

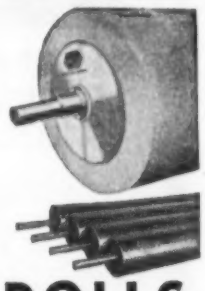
We gladly offer engineering service for your fume collector installation. Write for Bulletin 37-C.

RUEMELIN MFG. CO.
3883 N. PALMER STREET • MILWAUKEE 12, WIS., U. S. A.
MANUFACTURERS AND ENGINEERS
SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS

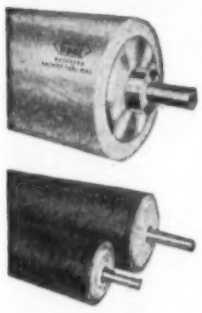
▲ Mention Item NED-2374 when writing ▲



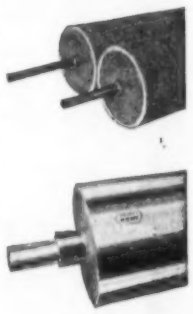
MANY INDUSTRIAL **ROLL** PROBLEMS are solved by using



"SHAF-TITE" ROLLS



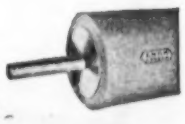
Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel, plastic, etc. Whatever your roll problem, put it up to



RODNEY HUNT

SEND FOR CATALOG TODAY!

RODNEY HUNT MACHINE CO.
73 Maple Street, Orange, Mass.



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CRANE QUALITY FITTINGS FOR WELDED PIPE JOINTS

PERMANENT • LEAK-PROOF • MAINTENANCE-FREE

Butt Welding Tee

STEEL BUTT-WELDING FITTINGS
In all patterns and sizes up to 24 in. O.D., including reducers and return bends. In standard and extra heavy weights for all services with Grade "A" seamless steel pipe, ASTM Spec. A-106.

FORGED STEEL WELDING FLANGES
Welding-neck, and slip-on types for all pressures and temperatures. Also, all-purpose Cranelap swivel flange with welding nipple for stronger, tighter, easier-to-make-up joints. No need to align bolt holes; ideal for odd angle joints.

Cross-Section, Welding Neck Flange

Socket Welding Elbow

STEEL SOCKET-WELDING FITTINGS
For ¼ to 2 in. lines; have same inside diameter as pipe. Deep socket makes self-aligning joint. Easy to weld properly with no danger of weld metal getting inside. Compact and rugged. Forged of high grade carbon steel in standard and extra strong weights.

WRITE FOR DESCRIPTIVE FOLDER AD-1623
CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE *Everything for Every Piping System*

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

▲ Mention Item NED-2376 when writing ▲

THE LUXURY OF CORRECT TEMPERATURES

This is the story of a Maintenance Engineer who has ceased to worry about heating and hot water temperatures because he knows how to use the various forms of Sarco steam traps and temperature control.

The large storage heater is controlled by the Sarco TR 21 Temperature Regulator and drained by the Sarco float-thermostatic steam trap shown above. At the rear is a hot water converter for the heating system held to exact temperature by a Sarco 2430 temperature regulator.

At other points the low cost Sarco 87 Thermoton is used to insure correct temperatures for food warming and satisfactory temperatures on incidental showers served by instantaneous heaters.

SARCO SAVES STEAM

SARCO COMPANY, INC.
475 Fifth Avenue, New York 17, N. Y.
SARCO CANADA, LTD., 85 Richmond St. W., TORONTO 1, ONT.
192

▲ Mention Item NED-2377 when writing ▲

ANOTHER SPECIAL BY PROGRESSIVE

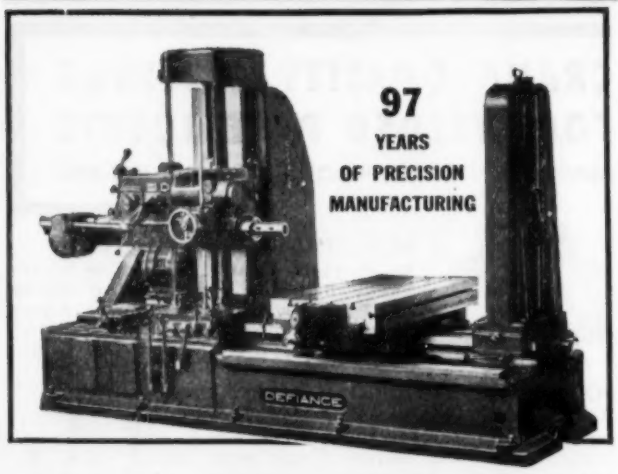
QUALITY PROMCO BRAND

CATALOG SHOWS DOZENS MORE

Special heads, threads and finishes on any metal or alloy adapted to cold upset. Weekly output: 25,000,000 pieces. Many specials, suggesting production savings for you, illustrated in latest catalog. Includes weights per 1M standard pieces, dec. equivs. of fractions, other purchasing and engineering helps. Write for Catalog 18.

The PROGRESSIVE MFG. CO.
46 NORWOOD ST. • TORRINGTON, CONN.

▲ Mention Item NED-2378 when writing ▲



BUILT OVERSIZE
for Rigidity and Accuracy!

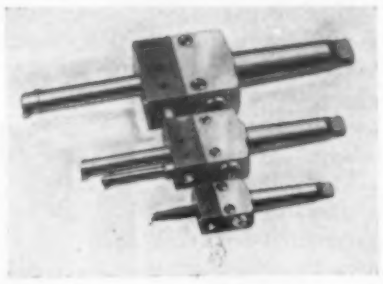
Defiance No. 25A Horizontal Boring Machine is designed with outboard bearing supports allowing maximum cross travel without sag. It has a 3¾" bar ...20 speeds range from 12 R.P.M. to 1000 R.P.M. ...30" x 60" table. Oversize construction insures rigidity, strength and accuracy. Write for bulletin. Defiance Machine Works, Inc., Defiance, Ohio.

DEFIANCE

BORING..MILLING..DRILLING..TAPPING MACHINES

▲ Mention Item NED-2379 when writing ▲

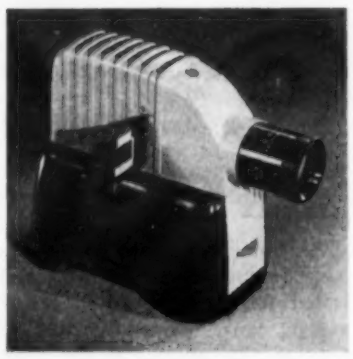
PRECISION BORING HEADS



Available in hole boring capacities of up to 15 inches, Mastur precision boring heads are fully adjustable. Tool steel adjusting head is graduated in 50 divisions to provide readings in thousandths of an inch and body is graduated to give vernier reading of 0.0002-inch. Heat treated alloy steel body and block are dovetailed and all fitting surfaces are ground to insure precision fit. Made by **F. A. Maxwell Co.**, 390 Broadway, Bedford, Ohio.

▲ Mention Item NED-2380 when writing ▲

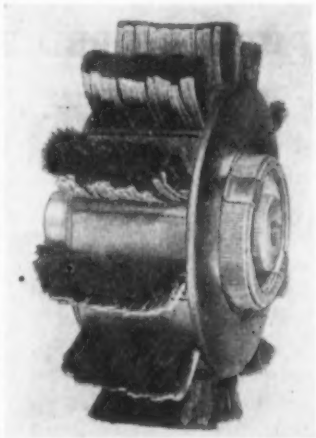
SLIDE PROJECTOR



Suitable for wide range of industrial uses, this Master model Kodaslide projector is supplied with 1000-watt projection lamp and will project a transparency 75 feet with 5-inch f2.3 Ektar lens. Five projection lenses are available and projector can be used with lamps ranging in size from 300 to 1000 watts. Body is die-cast aluminum and finished in two shades of gray. Lens focusing is controlled by turning barrel, and single knob controls tilting. Carrying case is provided. Made by **Eastman Kodak Co.**, Rochester 4, N. Y.

▲ Mention Item NED-2381 when writing ▲

CONTOUR SANDING WHEEL



Designed for sanding and finishing any irregular surface or edge, this model No. 650C heavy duty contour sanding wheel can be used on any rotating shaft. Unit has twelve brush-backed abrasive strips which are fed out as needed from an internal cartridge. As tool is rotated, these strips are forced into, around and over any surface or contour.

Sanding wheel is fast action tool which can be used for satin finishing and for removing rust, scale and tool marks. Unit has 5/8-inch housing and 10-3/4-inch diameter including height of brushes. Abrasive strips are 2-1/2 inches wide. Refills can be furnished in various grits and grades, scored and unscored, in aluminum oxide and garnet cloth. Fully loaded, tool weighs 7-1/2 pounds. Bore is 3/4-inch and tool mounts on right hand or left hand shaft. It can be adapted to flexible shaft, buffing and polishing lathe, electric motor shaft, drill press, woodworking or metal working lathe. Made by **Sand-O-Flex Corp.**, Dept 450, 4373 Melrose Ave., Los Angeles 27, Calif.

▲ Mention Item NED-2382 when writing ▲

MONUMENTS TO ENTERPRISE

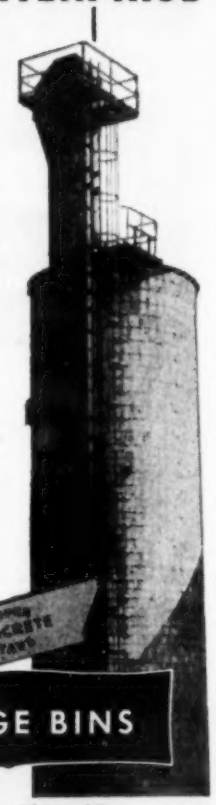
NEFF & FRY BINS are monuments to alertness and progressiveness in the adoption of storage methods. These bins provide all the advantages of silo-type storage with the added factor of economy in erection and maintenance costs.

The N & F super-concrete stave is formed under pressure, making it extremely smooth, dense, and durable. Each stave interlocks with six adjacent staves to form strong, tight joints. The structure is securely bound with steel hoops, encircling the staves in tiers.

Engineered to withstand stresses far beyond the requirements, and built of corrosion-resisting materials, N & F Bins last from one generation to the next with practically no maintenance expense incurred.

Our catalog explains the construction of N & F Bins and pictures many typical installations. Ask for it.

THE NEFF & FRY CO.
CAMDEN, OHIO



NEFF & FRY STORAGE BINS

▲ Mention Item NED-2383 when writing ▲

HIGH SPEED SNAGGING

Snag *anything* with "Electro" High Speed Wheels from swing frames, floor stands or portable machines. Costs will decrease; output will increase, provided *only* that you use "Electro" Wheels engineered to *your* job. Send for free job survey forms or for an "Electro" Grinding Engineer. Also free, our new Grinding Manual Catalog No. 645 *in full color*, the most talked of catalog in industry!

Service from Los Angeles or Buffalo

Electro SINCE 1919

Electro REFRACTORIES & ALLOY CORPORATION
Mfrs • Grinding Wheels • Crucibles • Alloys • Refractories
344 DELAWARE AVENUE BUFFALO 2, NEW YORK

▲ Mention Item NED-2384 when writing ▲

IT PULLS . . . PUSHES . . . SPREADS . . . BENDS . . . CLAMPS . . . HOLDS . . . LIFTS and LOWERS LIKE A JACK

It's amazing—how a Util-A-Tool set saves time and labor—makes tough jobs easy! Use it to clamp and hold parts for welding and assembly . . . to move machinery, straighten frames and structural members . . . pull in bulged car and truck sides, car doors and other frozen or wedged members . . . pull pinions, bushings, wheels and gears.

This "Tool of a Thousand Uses" is available for immediate delivery through distributors everywhere . . . at a price that can easily make it pay for itself through savings on a single job. Write for Bulletin P & P-46.

TEMPLETON, KENLY & CO. Chicago 44, Illinois
1010 South Central Avenue

▲ Mention Item NED-2385 when writing ▲

SCHRAMM
AIR COMPRESSORS

Built-in Motor Drive on Base

A real space saver for busy shops and where very little room can be allowed for compressor installations. This combination also lends itself to quick and easy handling to meet air requirements in various sections of large industrial plants without a lot of expensive pipe line work.

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

▲ Mention Item NED-2386 when writing ▲

ASK FOR THIS BULLETIN

SHOWS YOU HOW...

ONE PIECE OF EQUIPMENT—

- TRANSPORTS WORK
- ELEVATES WORK TO PRESS BED LEVEL
- POSITIONS WORK
- TRANSFERS WORK TO DIFFERENT LEVELS
- LOADS AND UNLOADS MOTOR TRUCKS
- SUPPORTS OVERHANGING WORK

Here are new, ingenious answers to many material handling problems found in almost any plant, provided by a single piece of equipment—Lyon-Raymond Portable Hydraulic Elevating Table. Shows labor-saving applications in actual shop views. Full details of equipment for particular operating conditions, featuring unusual adaptability, also convenience and safety provisions. Special variations (illustrated) offer suggestions your methods engineers may find helpful. More than just "descriptive literature," this bulletin offers real working information. Write for your Free Copy today.

LYON-Raymond Corporation
580 Madison St., Greene, N. Y.

▲ Mention Item NED-2387 when writing ▲

Less than five seconds required to take an accurate current reading with the Tong Test Ammeter. Simple and easy to operate — merely snap the tongs around the electrical conductor. A time saver for every electrician. Ranges up to 800 amperes.

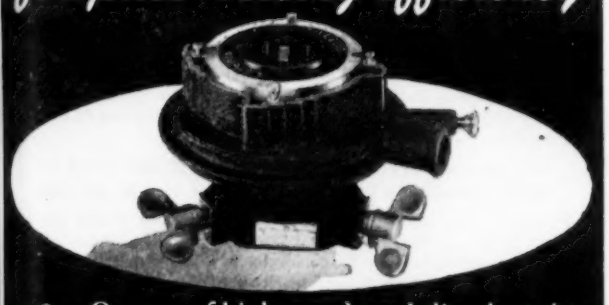
Write Today for Tong Test Bulletin ND-400

COLUMBIA ELECTRIC MFG. CO.
4525 HAMILTON AVE. - CLEVELAND 14, OHIO

COLUMBIA TONG TEST AMMETERS

▲ Mention Item NED-2388 when writing ▲

SELF-CONTAINED SIMPACT
for pace-setting efficiency

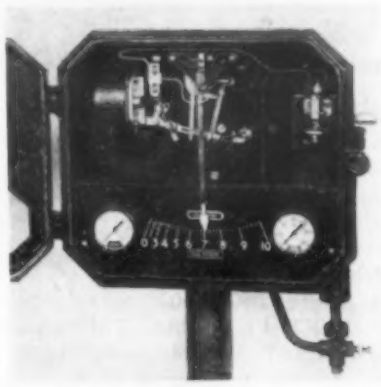


One set of high speed steel dies does the work of four—with a TOLEDO Simpact Threader! Threads 1" to 2" pipe. Sizes changed instantly. Entirely self-contained. No loose parts. Designed for easier operation and long dependable service. In ordering from your dealer, specify a TOLEDO Simpact—the *unbeatable* self-contained threading tool!...The Toledo Pipe Threading Machine Co., Toledo, Ohio. New York Office, No. 2 Rector Street Building.

TOLEDO
PRECISION PIPE TOOLS

▲ Mention Item NED-2389 when writing ▲

PNEUMATIC TRANSMITTER



Available for single or double duty, No. 226R series transmitters pneumatically transmit from point of measurement to central control panel such process variables as temperature, pressure, rate of flow and liquid level. Simplicity, ease of adjustment and accuracy are features. Units are factory calibrated to within 0.5-per cent of scale range in order to assure straight line relations between pen or pointer movement and output air pressure throughout range of instrument.

Only two micrometer screw adjustments are required to check and assure accuracy. One screw establishes range and the other sets zero. In addition to being available for single or double duty, transmitters are available as single duty transmitter-controllers containing any of five standard forms of Fulscope control (*Item NED-1955 June '40*). Made by **Taylor Instrument Cos.**, P. O. Box 110, Rochester 1, N. Y.

▲ Mention Item NED-2390 when writing ▲

FACE MASK

Complete respiratory protection is provided for routine or emergency maintenance or repair work in areas made hazardous by toxic gases or oxygen deficiency by this Demand Work mask. It has All-Vision face piece with large area lenses and Army type exhalation valve. Unit is two-fold assembly with portable, self-contained breathing apparatus supplied by small cylinder of oxygen or certified air carried on worker's back. In addition, means of utilizing oxygen from large stationary cylinder through connecting hose and regulators is provided.

Portable cylinder contains sufficient oxygen for approximately 10 minutes use. It is recommended for use in reaching or returning from contaminated work areas and for emergency exit. Stationary cylinder provides sufficient oxygen for approximately 5 hours service. Wearer can select source of oxygen supply at will. Demand regulator is adaptation of unit developed for high altitude flying during the war and automatically directs oxygen flow to facepiece if regulator should fail.

Dry oxygen flows over lenses thus preventing fogging. Corrugated rubber breathing tube permits freedom of head movement. Pressures in both portable and stationary cylinders are indicated continuously on pressure gages. Made by **Mine Safety Appliances Co.**, 220 N. Braddock Ave., Pittsburgh 8, Pa.

▲ Mention Item NED-2391 when writing ▲

by using AMERICAN COUNTER-TRED MATTING

A durable rubber and cord matting with a resilient non-slip surface for use in wet or slippery areas. Ridged bottom affords aeration and drainage. Easily handled for cleaning. Keeps the feet dry. 5/8" thick, 24" wide, any length.

— also —

AMERIFLEX HARDWOOD LINK MATTING
"WALRUS HIDE" ROLL RUBBER MATTING
TUF-TRED TIRE FABRIC MATTING
NEO-CORD OIL AND GREASE RESISTANT COUNTER-TRED MATTING
EZY-RUG RUBBER LINK MATTING

For prices and folder, "A Mat for Every Purpose" for promoting safety and sanitation and reducing fatigue, write

AMERICAN MAT CORPORATION
"America's Largest Matting Specialists"
1733 Adams St., TOLEDO 2, OHIO

▲ Mention Item NED-2392 when writing ▲

Snap-on IMPACT SOCKETS
for all types of Impact Wrenches

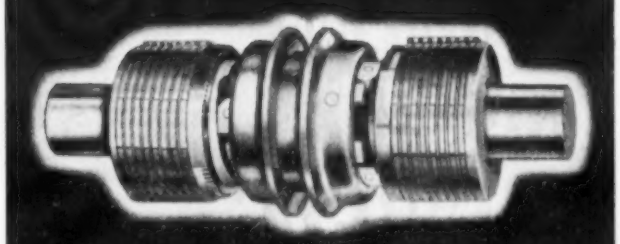
The constant, terrific pounding of powerful pneumatic impact drivers require sockets with exceptional stamina. Snap-on impact sockets are *made for the job!* Special alloy steel and correct heat treatment provide utmost durability. Accurate fit and dependable locking devices contribute to speed and safety. Available in 3/8", 1/2", 5/8", 3/4", 1" and 1 1/2" square drives with a full range of hexagon and square wrench sizes from 5/16" to 4 3/4" in standard length and bolt clearance types. Write for special catalog M46 describing the complete range of Snap-on impact sockets.

SNAP-ON TOOLS CORPORATION
8042-D 28th Ave., Kenosha, Wis.

Snap-on Tools
THE CHOICE OF BETTER MECHANICS

▲ Mention Item NED-2393 when writing ▲

ROCKFORD
PULLMORE



MULTIPLE-DISC
CLUTCHES

COMPACT DESIGN
HIGH TORQUE
HIGH-RATIO LEVERS*
POSITIVE NEUTRAL
PRECISION BUILT
LONG WEAR LIFE
EASY ADJUSTMENT

* High-ratio operating levers give PULLMORE clutches powerful engagement with slight axial pressure and short movement of the shifter spool; consequently operation is quick and easy. Declutching is equally fast and positive. The shifter spool has an extra deep slot which is hardened and ground. This prolongs the life of the clutch, reduces wear on the shifter fork and holds run-out to a minimum.

Send for This Handy Bulletin

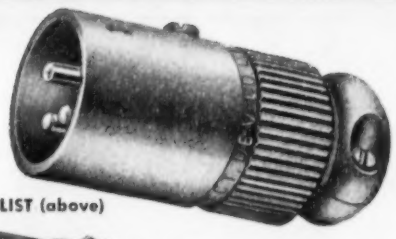
Shows typical installations of ROCKFORD CLUTCHES and POWER TAKE-OFFS. Contains diagrams of unique applications. Furnishes capacity tables, dimensions and complete specifications.

ROCKFORD CLUTCH DIVISION BORG-WARNER
303 Catherine Street, Rockford, Illinois, U. S. A.

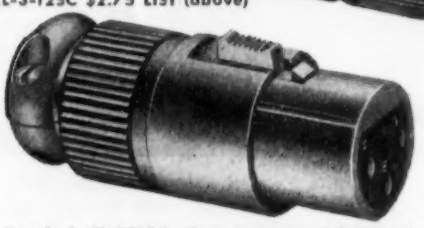
▲ Mention Item NED-2394 when writing ▲

NEW STEEL SHELL "XL"

WITH INTEGRAL CLAMP ENTRY 5/16" MAX. 1/4" MIN.



XL-3-12SC $2.75 LIST (above)



XL-3-11SC $2.80 LIST (left)

Steel shell "XL" plugs mate with standard Cannon zinc shell "XL" receptacles, having the same 3-contact (15-amp.) inserts. Strong, rugged construction for microphone and cable connections. Write Dept. D-113 for Bulletin XL-SC2.

CANNON ELECTRIC DEVELOPMENT COMPANY
3209 Humboldt Street, Los Angeles 31, Calif.
Canada & British Empire • Cannon Electric Co., Ltd., Toronto, Ontario
World Export Agents (excepting British Empire) Frazar & Hansen, 301 Clay Street, San Francisco 11, California

▲ Mention Item NED-2395 when writing ▲

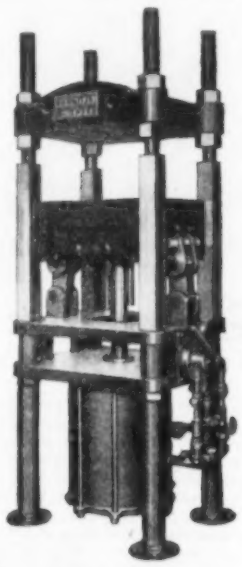
the best buy in molding presses

These air operated production molding presses are complete and self-contained, ready to connect to your air line.

50 ton capacity, $1650.00
15 ton capacity, 750.00

Ordinary shop air supply at 80 lbs. per sq. in. is used for the above ratings.

Write for detailed information.



MODEL L-207
Capacity 50 tons at 80 lbs. air line pressure

HANNIFIN CORPORATION • CHICAGO 24

▲ Mention Item NED-2396 when writing ▲

Where Can YOU Use

SELF-LOCKING ACORN PALNUTS?

Self-locking Acorn "Palnuts" are dome shaped, single thread locknuts made of tempered spring steel. They exert a powerful double-locking action that defies loosening under vibration. Low in cost—light in weight—easily, speedily applied—require but 3 bolt threads space to lock effectively.

Investigate Acorn "Palnuts" for your products. Outline your needs for samples and suggestions. Write for literature giving data on Self-Locking Acorn "Palnuts."

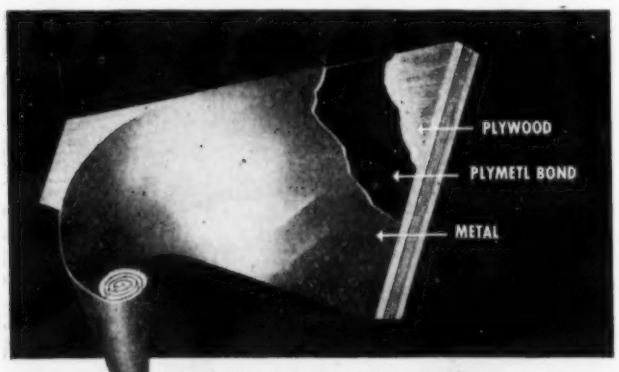
HERE ARE THE FEATURES:

- Self-locking; replaces regular nut and lockwasher
- Holds tight under vibration.
- Covers rough unsightly bolt ends eliminating "catching" or "scratching"; adds streamlined appearance.
- Saves assembly time, labor, weight and cost

THE PALNUT COMPANY
45 Cordier St. Irvington 11, N. J.

▲ Mention Item NED-2397 when writing ▲

PLAN WITH Plymetl
AND BUILD A BETTER PEACETIME PRODUCT

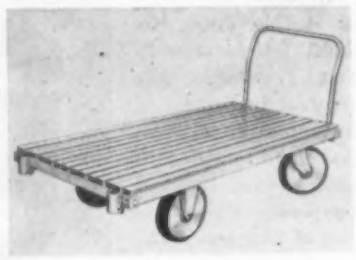


Haskelite Plymetl unites the lightweight and rigidity of plywood with the strength of metal. To one or both faces of a plywood plaque thin sheets of steel, aluminum, stainless steel, monel metal, or other metals are permanently bonded. Unaffected by moisture, mold and fungi (when edges are sealed). Plymetl is ideal for use on railway passenger car partitions, standard and refrigerator truck bodies, elevator cabs, ice cream and quick freeze cabinets, bakery proof boxes and bread coolers, etc. A 5/16" EVE Plymetl panel weighs about the same as 16 gauge steel yet has 52 times the resistance to bending. Write for complete data and samples today.

HASKELITE MANUFACTURING CORP.
Dept. ED Grand Rapids 2, Mich.
New York, Cleveland, St. Louis, Chicago, Detroit, Los Angeles, Philadelphia. In Canada: Railway & Power Engineering Corp., Ltd.

▲ Mention Item NED-2398 when writing ▲

MATERIALS HANDLING TRUCK



Lightness in weight and load factor are features of this materials handling truck. Three sizes are available. They range from 24 by 48-inch truck having 6-inch wheels to 36 by 72-inch unit with 12-inch wheels. Load rating for all models is from 2000 to 5000 pounds depending on caster size.

Truck bed is constructed of high tensile aluminum alloy extrusions and is flexible enough to distribute load on all four wheels when traveling on uneven floor surfaces. Aerol heavy duty wheels are equipped with Timken thrust and roller bearings, Shakeproof king pin, Elastic Stop Nuts and cured-on solid rubber tires.

One handle is standard equipment and special handles or drags as well as automatic couplings for tractors are available. Trucks are particularly well adapted for trackless trains and they track perfectly at high speeds. Made by California Pallet Div., **Tobey International Co.,** 7005 S. Western Ave., Los Angeles 44, Calif.

▲ Mention Item NED-2399 when writing ▲

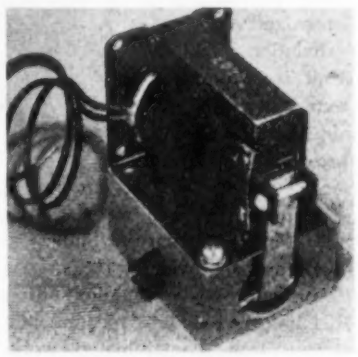
BUFFERED SOLDERING FLUX

Alkaline buffers employed in Metoil soldering flux reduce corrosive reaction to minimum after fluxing cycle has been completed. This buffered residue is readily soluable in water and can be removed by washing.

Soldering formula is balanced and can be used on copper, brass, tinned steel, terneplate, etc. Flux also contains wetting agent which will penetrate oil or grease so that surface is evenly coated. Material costs approximately $2 per gallon. Made by **Farrelloy Co.,** 1245 N. 26th St., Philadelphia 21, Pa.

▲ Mention Item NED-2400 when writing ▲

SOLENOID TWO-WAY VALVE



Accommodating operating pressures from 0 to 1500 pounds per square inch or higher where required, 110-volt alternating current solenoid two-way valve is designed for use on all types of machines where continuous duty is desired. Primarily intended for use with oil, unit can be adapted readily for use with other fluids. It is available in four National pipe thread pipe sizes of ⅛, ¼, ⅜ and ½-inch. Valve housing is fabricated of heat treated aluminum alloy. Enclosed poppet and seat are hardened and ground steel. Positive sealing O-rings are of standard design and size. Exposed metal parts are protected from corrosion. Valve can be supplied in normally open or closed positions. Heavy duty 110-volt, 60-cycle solenoid is mounted on top of valve housing. Solenoid core motion is transmitted to valve plunger by lever which assures positive and accurate operation of valve. Ports are located on opposite sides of unit. Made by **Electrol, Inc.,** 500 Grand St., Kingston, N. Y.

▲ Mention Item NED-2401 when writing ▲

You'll get CLEAN, DRY AIR with the Dexter AIR SEPARATOR

WRITE FOR BULLETIN S-71

THE LEAVITT MACHINE COMPANY
190 East River Street, Orange, Mass.

Dexter AUTOMATIC AIR SEPARATORS

ALSO MAKERS OF DEXTER VALVE RESEATING MACHINES, ATHOL PLUMBING SUPPLIES AND DEXTER LATHE CHUCKS

▲ Mention Item NED-2402 when writing ▲

VANE-AXIAL FLOW
Guarantees Efficiency
Less power to move more air

LA-DEL AXIVANE* FANS
TROLLER DESIGNED

Many standard Axivane* Models (*t. m. reg. applied for) will soon be in production. In the meantime, a Joy Engineer is available for consultation on special design problems.

Consult a Joy Engineer
LA-DEL DIVISION
JOY MANUFACTURING CO.
GENERAL OFFICES: HENRY W. OLIVER BUILDING PITTSBURGH, PA.

▲ Mention Item NED-2403 when writing ▲

BUSS FUSETRONS
Keep Circuits Operating
Prevent Costly Shutdowns
REDUCE HEATING
In Panelboards and Switches

HERE'S PROOF...

"We have a battery of several electric furnaces, with automatic controls cutting in and out frequently. When each furnace circuit was protected by a 100 ampere renewable fuse, we averaged one fuse outage weekly on each unit. The fuses were running very hot even though extreme care was exercised to maintain clean clips and good contact.

"On May 8, 1945, our chief electrician installed 100 ampere Fusetrons in these circuits. In the first three months after that, not one blew. As this electrician puts it, 'I can now go home at night without that continual fear that I'll be called up in the middle of the night to make a fuse replacement.' Our manager is naturally pleased by the elimination of those furnace shutdowns every week."

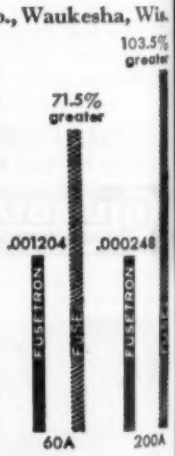
Percy Charlton, Supt.
Quality Aluminum Casting Co., Waukesha, Wis.

Cooler Operation of Switches and Panels with Fusetrons Reduces Needless Blowing of Fuses

Switches and panelboards stay cooler with Fusetrons—because Fusetrons have much less resistance than ordinary fuses. Since heat is proportional to electrical resistance—Fusetrons generate much less heat than ordinary fuses.

This cooler operation means the elimination of needless blows and useless shutdowns.

Cooler operation also adds to the life of switches and panelboards.



LOOK at the Resistance of Fusetrons Compared to the Lowest Resistance Fuse

Fuses have 55 to 140% greater resistance than Fusetrons. That is why Fusetrons reduce heating—keep circuits in operation—prevent costly shut-downs.

Chart shows resistance at full load in ohms. Other 250 volt sizes and 600 volt sizes show similar results.

What Is The Fusetron?

The Fusetron is a dual element device—a fuse to which is added a thermal cutout. The result is a fuse with tremendous time-lag and much less electrical resistance. Fusetrons fit standard fuse holders.

Fusetrons do everything fuses do, as is confirmed by the Underwriter's Laboratories' Label, and in addition

★ Provide simplest way to stop burnouts from single phasing. ★ Entirely wipe out needless blows caused by motor starting currents or other harmless overloads. ★ Give thermal protection to panelboards and switches. ★ Prevent needless blows caused by heating in panels and switches. ★ Protect motors against burnout. ★ Give double burnout protection to large motors. ★ Make burnout protection of small motors simple and inexpensive. ★ Permit use of larger motor or adding more motors on circuit without installing larger switch or panel. ★ On new installations, proper size switches and panels can be used instead of oversize. ★ Protect coils, transformers and solenoids against burnout.

Get All The Facts • Get Better Protection

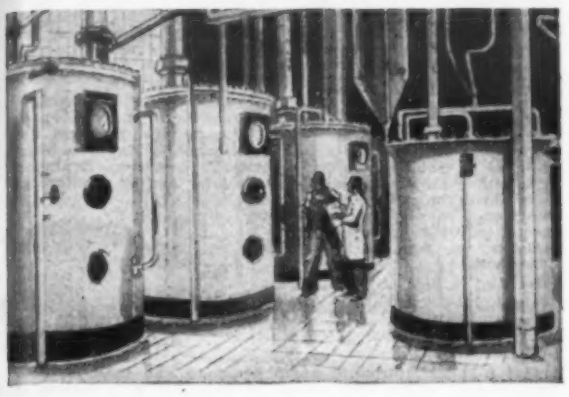
One needless shutdown—one destroyed switch or panel—one burned out motor may cost you far more than replacing every fuse with a FUSETRON. Don't risk such losses—change over your entire electrical system to FUSETRONS.

BUSSMANN MFG. CO., University at Jefferson, St. Louis 7, Mo.
(Division McGraw Electric Company)

BUSS FUSETRONS
Sold through Wholesalers

▲ Mention Item NED-2404 when writing ▲

Corrosion Has No Chance against NUKEMITE



NUKEMITE is an unexcelled material for protecting floors, piping, fume ducts, tanks, hoods, structural work and other equipment from corrosion. Easily applied by brush or spray method, it quickly air dries to form an impervious film of strong adhesion and durability. High concentrations of practically all commercial acids, alkalies, salt solutions and solvents have no affect on NUKEMITE covered surfaces.

Fully leakproof and non-porous, a NUKEMITE film also successfully withstands extremes in weather conditions. Available in attractive permanent colors, NUKEMITE serves to "dress-up" the appearance and extend the productive life of costly equipment.

A complete NUKEMITE Trial Kit is available at $2.95 (Postpaid in U. S.) Descriptive booklet mailed on request.

NUKEM Products CORPORATION
127 COLGATE AVENUE, BUFFALO 20, N. Y.

▲ Mention Item NED-2405 when writing ▲

"INCREASED PRODUCTION LONG SINCE PAID FOR FORMSPRAG CLUTCHES"

The Cracker Jack Co.
POPCORN PRODUCTS
ANGELUS—CAMPFIRE
MARSHMALLOWS
CHICAGO ILLINOIS

February 19, 1947

Formsprag Company
1415 Jarvis
Ferndale, Michigan

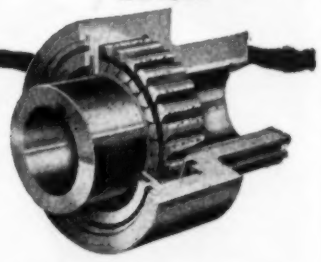
Gentlemen:

Enclosed you will find a couple of pictures of our Chums and Recipe Marshmallows as requested.

The Formsprag Clutches we use are adapted to our bag making machines, replacing clutches supplied by the manufacturer of these machines. The reduction in waste and maintenance, and the increased production of bags, has long since paid for the installation of the Formsprag clutches. Our enthusiasm for Formsprag clutches may be indicated by the fact that we have urged the manufacturer of these machines to adopt Formsprag as standard equipment.

Yours very truly,
THE CRACKER JACK CO.
D. F. Water
Plant Engineer

DFWater
ek



FORMSPRAG THE FULL COMPLEMENT *Over-Running Clutch*

• Formsprag Clutches are delivering outstanding money-saving performance in printing presses, machines for wrapping bread, making bags, coiling springs, making boxes, weaving textiles.

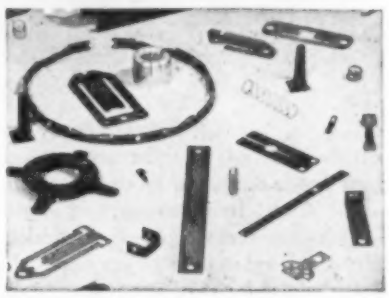
Formsprag may be able to do a job for you. If you feel you may have an application, drop us a line for full information.

FORMSPRAG Company
1415 JARVIS • FERNDALE, MICH.

▲ Mention Item NED-2408 when writing ▲

NEW *Processes* AND *Materials*

PRECISION PARTS



Quick delivery is possible on short-run production of precision formed and stamped parts as result of development of manufacturing method which eliminates need for conventional tooling. Complete department has been set up to handle orders in any quantity up to point where permanent tooling is less expensive. Pilot lots, establishment of production tolerances and short run operations are handled readily. In addition to beryllium copper parts, this production technique applies to any heat-treatable alloy. Service offered by **Instrument Specialties Co.**, 223 Bergen Blvd., Little Falls, N. J.

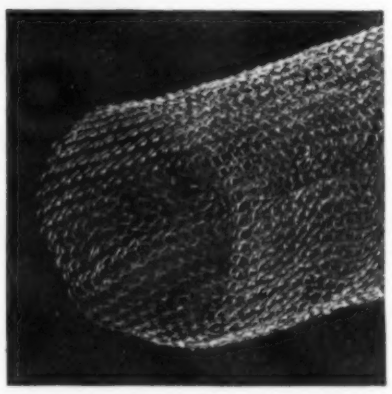
▲ Mention Item NED-2407 when writing ▲

SYNTHETIC ENAMEL

Waterproof, alcohol resistant and durable finish is provided by Thet-lc enamel which bakes to hard tough film in approximately 40 minutes at 180 F. It can be thinned with naphtha or mineral spirits and is applicable by spraying, dipping, brushing or roller coating. Designed for use on wood or metal, finish levels perfectly and possesses high gloss. It is available in clear, black, white or colors as desired. Made by **Burgess, Fobes Co.**, P. O. Box 106, Portland 6, Me.

▲ Mention Item NED-2408 when writing ▲

KNITTED WIRE MESH



Knitted wire mesh is available in 5-inch diameter sleeves and can be made of such materials as copper, brass, plain steel, galvanized steel, Monel, stainless steel or aluminum. Either round or flattened wire in sizes ranging from 0.005 to 0.0011-inch can be used and loops or holes measure approximately 1/4 by 1/4-inch.

Sleeves can be knitted into rolls of continuous mesh weighing from 5 to 15 pounds and then cut to any length needed. Suggested applications include use in air filters, oil filters or as pot cleaners. Made by **Letraw Mfg. Co.**, 229 W. Illinois St., Chicago 10, Ill.

▲ Mention Item NED-2409 when writing ▲

WHICH GRINDING OPERATION do you want to speed up, safely?

★ Hard welds
★ Soft steel
★ Non-ferrous metals
★ Gray iron castings
★ Carbide-tipped tools
★ Magnesium
★ Rubber

★ Write today for an Atlantic engineer. Let him *show* you how you can speed up your grinding operations, safely. Atlantic Abrasive Corp., 525 Pearl Street, South Braintree, Mass.

Atlantic PATENTED RESINOID BONDED GRINDING WHEELS

▲ Mention Item NED-2410 when writing ▲

HOBART *brings you the arc control that assures* Better Welds

It's Simplified

EASY OPERATION
Even the apprentice can get professional welds with the Hobart "Simplified" Arc Welder. It's easy to get exact welding heat, thus increasing production speed—saving both time and money.

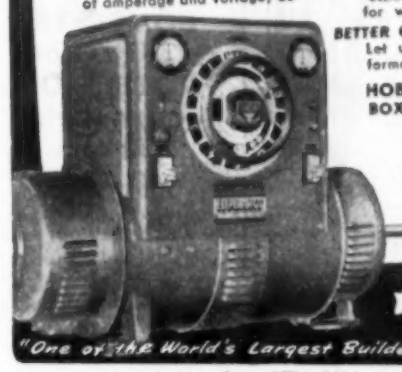
DUAL CONTROL
With Hobart's Multi-Range Dual Control you have a choice of 1000 combinations of amperage and voltage, assuring the correct welding heat for every job.

REMOTE CONTROL
Another exclusive Hobart feature permits the welder to adjust welding heat at the work, no matter how far he may be from the machine.

EXCEPTIONAL STABILIZATION
Inherent reactance, a result of the special design of the Hobart Welding Generator, is responsible for arc stability for which Hobart is noted.

BETTER GET HOBART NOW!
Let us give you further information and details.

HOBART BROTHERS CO.
BOX ND-47
TROY, OHIO



FREE! Valuable "Welder's Vest Pocket Guide." Write for it.

HOBART

"One of the World's Largest Builders of Arc Welders."

▲ Mention Item NED-2411 when writing ▲

OBSERVE

"Perfect Shipping Month"
Every Month with
SIGNODE STEEL STRAPPING

Signode's PLANNED PROTECTION produces extra profits by cutting avoidable shipping losses. *Profit by Signode's world-wide experience.* Call the Signode office nearest you or write direct to

SIGNODE STEEL STRAPPING COMPANY, 2632 N. Western Ave., Chicago 47, Ill.; 378 Furman St., Brooklyn 2, N. Y.; 461 Bryant St., San Francisco 7, Calif., Branches in 21 Principal Cities.

THE STEEL STRAPPING METHOD
SIGNODE Reg. U. S. Pat. Off.
FOR ALL TYPES OF SHIPMENTS

▲ Mention Item NED-2412 when writing ▲

PAYS OFF

THE FIRST TIME YOU USE IT!

ROCKWOOD *TRIPLE-ACTION* TYPE SG WaterFOG NOZZLES

OFFER FAST EXTINGUISHMENT, EASIER HANDLING AND LESS WATER ON FIRES IN ORDINARY COMBUSTIBLES AND FLAMMABLE LIQUIDS.

You can prove the worth of the new improved type SG Rockwood WaterFOG Nozzles right in your own plant by simply installing them on all your hose lines.

This new nozzle will give you either high or low velocity WaterFOG discharge and a straight stream — three different types of discharge from the one nozzle.

The type SG WaterFOG Nozzles are available in 3/4", 1", 1 1/2" and 2 1/2" sizes for service on fire hose lines.

Write for literature.

Approved by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories.

ROCKWOOD SPRINKLER COMPANY
44 Harlow St., Worcester 5, Mass.

Specialists in Fire Protection Engineering, Equipment and Installation Since 1907

▲ Mention Item NED-2413 when writing ▲

IN A HURRY?

Complete Stocks • Immediate Delivery

GLOVES Rubber, Leather, Canvas, Neoprene, Asbestos—All Lengths and Sizes.

APRONS Rubber, Leather, Neoprene, Asbestos, etc. — Men's and Women's Sizes

BOOTS Work Shoes, Knee Boots, Hip Boots, and Storm Rubbers

CLOTHING Coats, suits, overalls, pants, etc. —Rubber, leather, asbestos.

AND MANY OTHER ITEMS

THE CORLISS

All purpose coat. Tough, Buna-S coated sheeting. Single breasted. Two way collar. Waterproof. Highly resistant to oils and acids. 30" length. Sizes 36-52.

UTILITY SUIT

Jacket and Overalls
1032—Synthetic rubber
1060—Neoprene
1085—Heavy Buna-S
Also available in waterproof oiled sheeting.

NEOPRENE

impregnated and coated gloves. Acid and oil resistant. Curved fingers. Roomy. Easy fitting. Durable. Excellent grip quality. Medium weight.

922 12½" with gauntlet.

909 Knit Wrist

COMPLETE Head to Foot PROTECTION for Industrial Workers

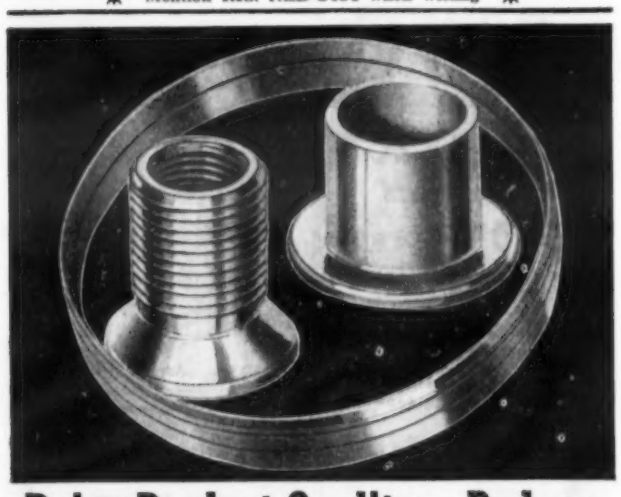
•

WRITE FOR CATALOG

Dunn Products

Madison at Racine
Chicago 7

▲ Mention Item NED-2414 when writing ▲



Raise Product Quality—Reduce Production Costs of Bronze Parts

—use AMPCO extruded bronze for faster, easier production of machined parts

Aluminum bronze rods — extruded by Ampco, give you this double advantage:

1. **Product improvement** from the performance features of aluminum bronze — Resistance to corrosion, compression, impact, fatigue, and wear; efficiency at extreme temperatures; and excellent bearing qualities.
2. **Production economy** from the savings possible with extruded stock — Sizes parallel requirements — reducing scrap and machining time. Smooth surface and compact structure eliminate hidden flaws that cause excessive rejects.

Two grades of Ampco Metal and two grades of Ampcoloy (industrial bronzes) are produced in extruded form by Ampco. Rods in a complete range of sizes are available for immediate shipment. Write for Bulletin 64A for complete details.

AMPCO Metal
The Metal without an Equal
A-33A

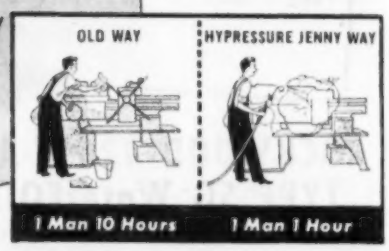
Ampco Metal, Inc., Dept. NE-4, Milwaukee 4, Wis.

▲ Mention Item NED-2415 when writing ▲

CLEANING MACHINERY BEFORE REPAIRS

You figure the saving in Dollars and Cents

HERE'S WHAT YOU SAVE IN TIME



Add to the time and money saved on cleaning, an additional 40 percent saving in repair time. For mechanics, working on dirty machinery, waste almost half their time wiping grease and oil from tools and equipment. These savings for a year total a considerable item in any maintenance budget.

Many users periodically steam clean all production equipment with HYPRESSURE JENNY. For besides speeding operations and promoting safety, the removal of dirt and grease often reveals unnoticed worn or damaged parts, thus permitting repairs before failures and costly shut-downs occur.

HYPRESSURE JENNY can save for you in many other ways. Write today for additional information.

HYPRESSURE JENNY DIVISION

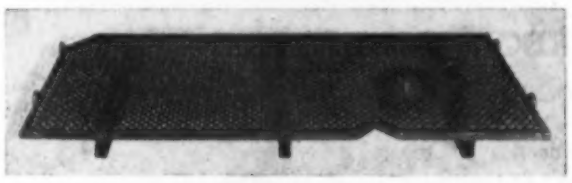
Homestead Valve Manufacturing Co.
P. O. Box 84 • Coraopolis, Penna.

▲ Mention Item NED-2416 when writing ▲

New Processes & Materials

RUBBER COVERED TANK GRID

Rubber insulated tank grids serve to protect rubber linings and agitation coils in plating and pickling tanks against damage from handling baskets and falling pieces. Frequency of



relining tanks and inconvenience involved in work stoppage can be reduced to minimum. Seamless rubber covering of grids serves further to prevent contamination of plating solution which results from corrosion of exposed metal equipment.

Grids are constructed of expanded metal, reinforced with angle iron and supported on heavy channel iron. Lifting eyes are provided for easy removal to clean tank and for retrieving fallen parts. Made by **Automotive Rubber Co.**, Dept. ED, 8641 Epworth Blvd., Detroit 4, Mich.

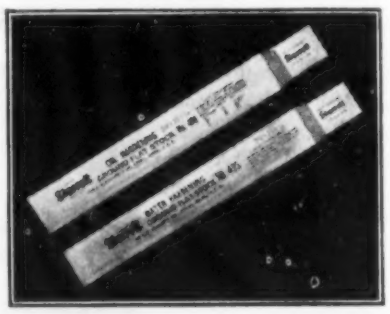
▲ Mention Item NED-2417 when writing ▲

MAGNETIC ALLOY

Developed for use in making lightweight motors and generators, Hiperco magnetic alloy will permit design of motors with less metal for same power or more power for same amount of metal. Magnetic alloy is 35 per cent cobalt, 64 per cent iron and 1 per cent chromium alloy. It is capable of withstanding intense vibration and yet is ductile enough to be bent double without breaking. Magnetic saturation of material is claimed to be more than that of any known metallic material. Hiperco is available to manufacturers for experimental purposes only. Made by **Westinghouse Electric Corp.**, Box 868, Pittsburgh 30, Pa.

▲ Mention Item NED-2418 when writing ▲

TOOL STEEL FLAT STOCK



Oil and water hardening flat stock tool steels are available with two flat sides precision ground parallel, straight and to tolerance of 0.001-inch. Ends are machined square. Each piece is marked for size and type and supplied in envelope for protection against rust and scratching.

Oil hardening stock is nondeforming electric furnace tool steel which is fully spherodized annealed. Fine grain structure and deep hardening characteristics make it suitable for precision parts requiring accuracy of size after hardening. Water hardening material is annealed for easy machining. It develops maximum hardness when quenched in water or brine.

Flat stocks are supplied in pieces 18 inches long, ranging in width from ½-inch to 6 inches and in thickness from 1/64 to 1 inch. Made by **L. S. Starrett Co.**, Athol, Mass.

▲ Mention Item NED-2419 when writing ▲

NOPAK Reciprotrol Valve produces fast, semi-automatic, air-powered operating cycle.

Faster Mounting Less Fatigue

—with NOPAK Reciprotrol Valve

This hand-operated arbor press, employed to mount tires on wheels, was converted to fast, semi-automatic operation with a NOPAK Model D Air Cylinder controlled by the new Reciprotrol Valve. The operator merely places the tire, mandrel and wheel in position and trips the Reciprotrol Valve. Cylinder then automatically presses tire on wheel and returns to starting position as operator picks up units for the next assembly.

Results? Mounting time cut 50%; operator fatigue minimized; machine now attended by one woman operator working a full 8 hour shift, instead of two men relieving each other.

GALLAND-HENNING MFG. CO., 2755 S. 31st Street, Milwaukee 7, Wis.

NOPAK Reciprotrol Valve provides full-, semi-automatic or manual control of length, speed and position of cylinder stroke.

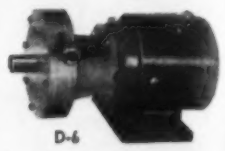
NOPAK VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE
A 5180-1/9A

▲ Mention Item NED-2420 when writing ▲

SMALL PUMPS DO BIG JOBS when they're EASTERNS

Skillfully engineered designs give Eastern pumps performance out of all proportion to their compact size. More than 300 models and Eastern's ability to engineer new pumps to meet special requirements mean that you can get an Eastern pump to do the work you want. Here are two models:

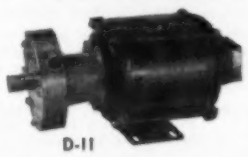
Ideal for laboratory and light industrial circulation purposes, Model D-6 is a compact, light-weight centrifugal pump designed for continuous duty where small volume and pressure are required. Pump and motor are close-coupled. An open vane impeller is mounted on the motor shaft extension. Equipped with either an easily adjustable stuffing box or mechanical rotary seal, the pump proper has no bearings. Totally enclosed, fan-cooled 1/30 H.P. induction motor is suitable for use in inflammable conditions.



D-6

Size: 7½" x 4½" x 4¾".
Weight: 11½ lbs. Power: 1/30 H.P.
Alloys: Available in Cast Iron, Bronze, Stainless Steel, Monel Metal and Hastelloy C.

Model D-11, a centrifugal pump designed and built for continuous duty under hard usage, is available with motors of various frame enclosures and current specifications, and therefore is readily adaptable for a wide range of applications. Heavy duty, ⅛ H.P. General Electric induction type motor may be semi-enclosed for general service or totally enclosed for exposure to dust, fumes or spilled solutions. Explosion proof motors (Underwriters Approved Class I, Group D) are available for hazardous conditions. Available with sleeve or ball bearings, stuffing box or rotary seal.



D-11

Size: 10¾" x 5" x 5½".
Weight: 20 lbs. Power: ⅛ H.P.
Alloys: Available in Cast Iron, Bronze, Stainless Steel, Monel Metal and Hastelloy C.

For consultation on your pump needs or our latest catalog, write today to:

EASTERN INDUSTRIES, INC.
47 FOX STREET NEW HAVEN 6, CONNECTICUT

▲ Mention Item NED-2421 when writing ▲

EASE of HANDLING

one of the reasons why ELWELL-PARKER'S are preferred!

Illustrated is an Elwell-Parker truck driven by an amputee. Yet with the aid of an attachment he does an excellent job! . . . Elwell-Parker design makes the driver *the master of the truck at all times.* For example:

FINGER-TIP CONTROLS are easily reached and insure instant control of every truck movement.

FAST BRAKING—soft yet positive. Starting or stopping on ramps is easy because brakes can be applied when power is on.

COMFORTABLE SAFE OPERATION—Cushioned pedals, easy steering, controlled speed and smooth quiet operation reduce driver fatigue.

Call in the nearest *E-P* man for the proper application of these trucks to your specific needs.

THE ELWELL-PARKER ELECTRIC COMPANY
4502 St. Clair Ave. • Cleveland 14, Ohio

▲ Mention Item NED-2422 when writing ▲

CUT SHIPPING ROOM EXPENSES WITH CENTRALINE

Try Centraline Stencil Board—Cut your shipping room expense with these features:
Extra tough . . . never becomes brittle . . . here's a stencil board that meets your customers' strictest requirements.
Oil-treated, won't soak up ink. With Centraline Stencils you get sharp, clean letters that won't break down. Flexible for odd shaped packaging . . . lays flat on regular surfaces. Write today for a generous sample . . . convince yourself.

CENTRAL PAPER COMPANY
INCORPORATED
2436 Lakeshore Drive • Muskegon, Michigan
Branches in leading cities

▲ Mention Item NED-2423 when writing ▲

TORRINGTON SPHERICAL ROLLER BEARINGS

Designed for heavy-duty performance, Torrington Self-Aligning Spherical Roller Bearings are inherently self-aligning, have high radial capacity and take thrust loads in both directions. Manufactured as complete units for easy assembly. Write for Bulletin No. 200.

THE TORRINGTON COMPANY
South Bend 21, Ind. • Torrington, Conn.
Offices in all principal cities

NEEDLE
SPHERICAL ROLLER
TAPERED ROLLER
STRAIGHT ROLLER
BALL

TORRINGTON BEARINGS

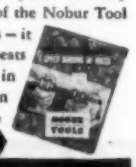
▲ Mention Item NED-2424 when writing ▲

NOW! HERE'S HOW TO QUICKLY AND EASILY BURR HOLES ON PARTS LIKE THESE—

Remove Burrs This Sure Way, Faster, Better, Easier!

With the New Nobur Tool you can burr faster – improve the finish of the deburred parts and lower production costs by eliminating burring as a bench operation. This New Nobur Tool speeds the burring of holes – and makes burring a fast, easy machine operation. It speeds production by cutting burring time to an absolute minimum.

The Nobur Tool works like a drill; it can be used in the spindle of any machine. The operator works with complete safety at all times and parts can be deburred as fast as they can be handled. All burrs are instantly removed – a double-edged cutting blade deburrs the edges of holes in flat or curved surfaces, of single or multi-walled parts, smoothly and accurately. The clean cutting action of the Nobur Tool will pass the most severe of inspections – it will help to eliminate reworks and repeats during assembly. Nobur Tool available in 1/16" progressive sizes from 3/16" to 1" in diameter. Write today for new complete burring folder.

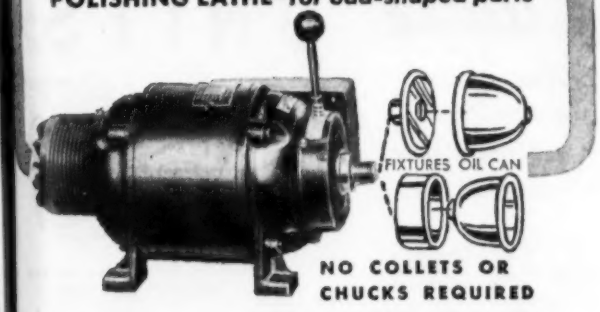


NOBUR MANUFACTURING COMPANY
910 NORTH ORANGE DRIVE, LOS ANGELES 38, CALIF.

▲ Mention Item NED-2425 when writing ▲

New Vacuum Grip

POLISHING LATHE—*for odd-shaped parts*



NO COLLETS OR CHUCKS REQUIRED

Parts which cannot be held by chuck or collet—odd-shaped parts such as oil can bodies, spun shapes and flat stampings—are now readily handled by the new Crozier Vacuum-grip Polishing Lathe.

The lathe generates its own vacuum, without piping or glands. It starts, holds the work (copper, brass, aluminum, zinc, magnesium, plastic as well as steel), stops instantly, releases the work automatically for low cost production. All work is held firmly for polishing and burnishing and many other operations.

We design and make special fixtures for your jobs. This service is speedy and inexpensive.

Model 1VPL Crozier Vacuum-grip Polishing Lathe, has a 1"-8 thread spindle. Furnished with an 1800 or 3600 r.p.m. 220-440 or 550 volt 3-phase 50 or 60 cycle motor, the price is $290 f.o.b. factory.

Write for data on complete lathe line.

Another Unsurpassed Machine Tool **Crozier** From Crozier Craftsmen

CROZIER MACHINE TOOL CO., HAWTHORNE, CALIFORNIA

▲ Mention Item NED-2426 when writing ▲

New Processes & Materials

WOVEN METAL CLOTH

Knitted in cylindrical sleeve form and made in endless lengths without loose ends, Nickltex woven metal industrial cleaning cloth is similar in use to household pot cleaners. Industrial cleaning cloth is made of Z-nickel and is heat treated for maximum wear resistance and strength. Cloth can be unrolled to clean tubing and intricate shapes or it can be rolled up into shape of ball to clean corners and other spots. Open mesh construction permits passage of water and cleaning solvents for cleaning purposes. It will neither unravel nor splinter. Made by **Metal Textile Corp.**, 2 Central Ave., Orange, N. J.

▲ Mention Item NED-2427 when writing ▲

REFRACTORY CEMENT

Designed for use as bonding-mortar with fire and insulating brick, Air Set cold setting refractory cement is recommended also as protective facing for fire brick or for insulating fire brick furnace linings. Material provides tight permanent joint and strong bond that does not allow brick to become loose in wall. Workability is such that it can be trowelled directly from drum. It pours readily but will not soften or run out at joints.

Cement is formulation of selected refractory clays combined with special bonding agents to assure ample refractoriness at temperatures up to 2910 F. It is available in 16, 50, 95 and 185-pound steel drums ready for immediate use. Made by **Armstrong Cork Co.**, 1270 State St., Lancaster, Pa.

▲ Mention Item NED-2428 when writing ▲

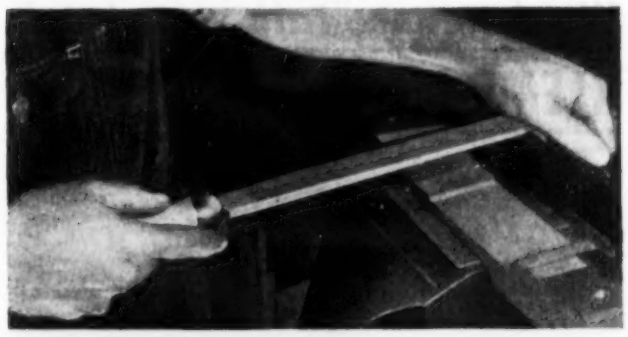
RF TRANSMISSION CABLE

Polyethylene insulated No. 14-023 Twin-Lead conductor transmission line will handle safely 2 kilowatts. It is recommended for use in connecting antenna with receiver and

transmitter. Two heavy conductors in this heavy duty line are spaced close enough to eliminate radiation as loss factor. Individual conductors which are seven strands of No. 21 copper wire will carry full kilowatt of energy even when mismatched.

Insulation of transmission cable is such that surface moisture which can form continuous film is eliminated. Loss characteristic of line is claimed to be as much as ten times better than that of prewar transmission lines normally used. Made by **American Phenolic Corp.**, 1830 S. 54th Ave., Cicero 50, Ill.

▲ Mention Item NED-2429 when writing ▲



"Play it safe when filing a die"—says Pop the Foreman

To guard against irregularities, inaccuracies, or too much metal removal, many operations (as in corners) call for machinists' files with at least one "safe" (uncut) edge.

View shows the Nicholson Hand with one "safe" edge. A good assortment of machinists' files suitable for general diemaking consists of the following:

HAND – *Bastard double cut with one "safe" edge.*
HAND FINISHING–*Smooth double cut with two "safe" edges.*
PILLAR–*Bastard and Smooth double cut with one "safe" edge.*
SQUARE BLUNT – *Bastard double cut.*
ROUND – *Bastard spiral (double) cut.*
HALF ROUND TAPERED – *Bastard double cut back and flat side; Smooth single cut back and double cut flat side.*
THREE SQUARE TAPERED–*Bastard and Smooth double cut.*

For *The right file for the job*, ask your industrial distributor for Nicholson or Black Diamond brand.

NICHOLSON U.S.A.
NICHOLSON FILE COMPANY
34 Acorn St., Providence 1, R. I.
(In Canada, Port Hope, Ont.)
BLACK DIAMOND TRADE MARK

NICHOLSON FILES FOR EVERY PURPOSE

▲ Mention Item NED-2430 when writing ▲

ELECTRONIC AMPLICALL INTERCOMMUNICATION

For Efficient Communication

IN ANY KIND OF INDUSTRY . .

Instant Speech for *Instant* Action

Have the fast, easy communication your plant needs—with AMPLICALL Electronic Intercom. Just the touch of a button puts all key men within each department into split-second speaking contact; solves departmental problems quickly; cuts errors and boosts work output. And, an inter-departmental AMPLICALL System linking *all* the key departments of your plant, makes *overall* operations smoother, faster—provides elbow-close management control. For efficient, business-bettering communication, put AMPLICALL on the job! Write us today for details.

The unit illustrated is the W200 Series AMPLICALL with facilities for up to 24 master stations, permitting 12 conversations to be carried on simultaneously. Fast, easy operation; clear, life-like conversation; private.

ELECTRONIC Intercommunication ENGINEERED to your REQUIREMENTS

Electroneering is our business
RADIO • RADAR SOUND **Rauland** COMMUNICATIONS TELEVISION
THE RAULAND CORP. • 4241 N. KNOX AVE., CHICAGO 41, ILL.

▲ Mention Item NED-2431 when writing ▲

Introducing...

TWO NEW HIGHER HP MODELS OF WORTHINGTON ALLSPEED SELECTORS

MODEL D: 2 to 5 hp; speed range 360 to 2880 rpm; ratio 8 to 1.

MODEL E: 2.7 to 7.5 hp; speed range 410 to 2460 rpm; ratio 6 to 1.

These new and bigger Worthington Allspeed Selectors bring to your heavier machines the same performance advantages that have made the familiar, lighter models A and C tops for precision control.

See for yourself how their instantaneous, stepless control assures peak production speeds, quickly and easily; how Worthington's exclusive design features increase production from 25% to 50%. Your nearby Worthington distributor will gladly arrange a fact-revealing test in your own shop . . . and prove to you that *there's more worth in Worthington.* Or write to *Worthington Pump and Machinery Corporation, Merchandising Division, Harrison, New Jersey. 36 District Offices throughout the U. S.*

WORTHINGTON

97-3A

▲ Mention Item NED-2432 when writing ▲

HASSALL cold-heading may solve your immediate special part problem . . . Special nails, rivets and threaded parts made in diameters from 1/32" to 3/8"—lengths up to 6" . . . Rivets 3/32" diameter and smaller a specialty . . . Variety of metals, finishes and secondary operations . . . Economy, quality and quick delivery in large or small quantities . . . Tell us what you need . . . We will answer promptly. ASK FOR FREE CATALOG. 3-color Decimal Equivalents Wall Chart free on request.

JOHN HASSALL, INC. 398 Oakland St. Brooklyn 22, N.Y.

Manufacturers of Cold-Headed Specialties—Established 1850

▲ Mention Item NED-2433 when writing ▲

It's Easier and Cheaper TO MAINTAIN THIS cloth-type DUST COLLECTOR

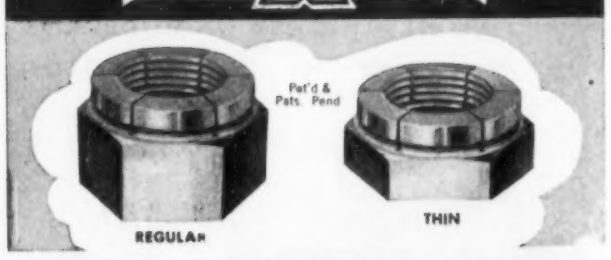
Only a Few Seconds Needed To Install a Dustube Filter

Installed simply by only one man. He works on the clean air side and needs no tools. The cloth in a Dustube has unusually long life because it is never under tension and has no metal contacts to corrode or abrade it. Dustube filters are always visible for quick inspection without any dismantling whatever. Protect against costly maintenance . . . investigate Dustubes!

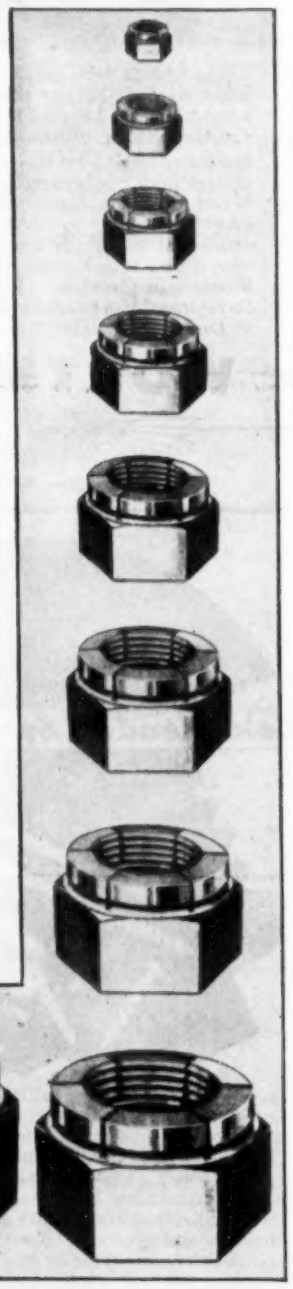
American WHEELABRATOR & EQUIPMENT CORP. (FORMERLY AMERICAN FOUNDRY EQUIPMENT CO.) 500 S. Bryant St. Mishawaka, Indiana — dustube DUST COLLECTORS

▲ Mention Item NED-2484 when writing ▲

FLEXLOC



SELF-LOCKING NUTS



You can't afford to have nuts come loose, so what you need is the All-metal, One-piece "Flexloc", which is a Self-Locking Nut that won't budge, except when a wrench is used. "Flexloc" packs maximum usefulness in minimum space because it is rugged, self-locking, compact—and is therefore becoming increasingly popular and this applies alike to U.S.S. and S.A.E. thread series.

Every thread—including the locking threads—takes its share of the load.

Covers a wide range of tolerances — from low No. 1 to high No. 3. Can be used over and over again without losing much of its locking ability.

Being a "stop" nut, it stays locked in any position on a threaded member.

"Flexloc" Thin Nuts are especially popular, because their tensile is so high.

Sizes from No. 6 to 1" in diameter — **Millions In Use!**

Convince yourself with a few free samples.

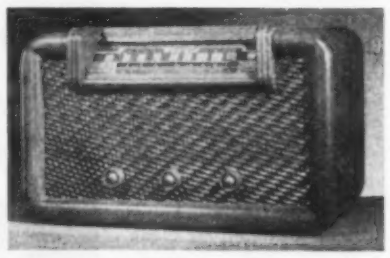
OVER 44 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.
JENKINTOWN, PA. BOX 581
BOSTON • CHICAGO • DETROIT • INDIANAPOLIS • ST. LOUIS • SAN FRANCISCO

▲ Mention Item NED-2485 when writing ▲

NEW Applications

STRENGTHENED METAL



All metal grille of this Bendix radio has been strengthened by the Rigid-Tex metal strengthening process (*Item NED-2299, April '45*) so that it has approximately same structural strength as any other part of the cabinet. Upper portion of panel is perforated metal oxidized and highlighted to match or contrast with cabinet and lower portion is solid. Tests of sound transmission through Rigidized and perforated metal are claimed to indicate that 25 per cent open area gives same result as 75 per cent open area in commonly used materials. Metal processing offered by **Rigid-Tex Corp.**, 666 Ohio St., Buffalo 3, N. Y.

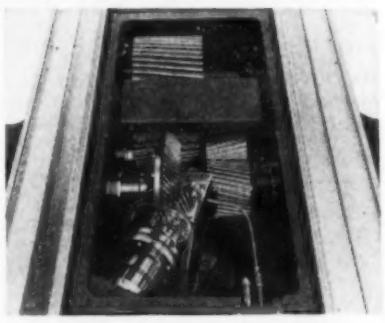
▲ Mention Item NED-2436 when writing ▲

COLD TANK CLEANER

Fast, thorough stripping of carbon, paint, varnish, adhesive dirt, oil and grease from metal parts is possible with Transpo noninflammable cold tank cleaner. It is particularly suitable for cleaning automotive and aircraft engines and parts. It is most economically used at temperatures between 65 F and 85 F. Compound is virtually odorless because of liquid seal which also prevents evaporation. It will not corrode aluminum, magnesium, cadmium plate, steel, zinc, cast iron or tinplate. Made by **Turco Products, Inc.**, Dept. 25, 6135 S. Central Ave., Los Angeles 1, Calif.

▲ Mention Item NED-2437 when writing ▲

PLANER DRIVE UNIT



Designed for use on double housing and openside planers, Space-Saver drive requires minimum of floor space and is protected from dust and grit because of its location behind column or housing and close to planer bed. Unit employs minimum number of gears, shafts and bearings. Hardened and lapped hypoid gears, in combination with helical gears and table rack, produce maximum load carrying capacity with smoothness of motion. Hypoid pinion is rigidly mounted between antifriction bearings.

Drive from motor is through tubular floating shaft with flexible connections at both ends to minimize vibration and noise. Flexible connections have no backlash and require no lubrication. Made by **G. A. Gray Co.**, 3611 Woodburn Ave., Cincinnati 7, O.

▲ Mention Item NED-2438 when writing ▲

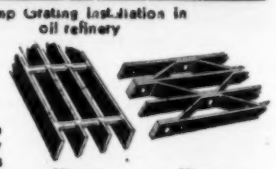
We'd never "talk you into" KLEMP Open Steel FLOORING

KLEMP SURE FOOTED AS A CAT
OPEN STEEL FLOORING

Klemp Grating Installation in oil refinery

KLEMP Open Steel Gratings "talk for themselves" wherever specifications call for open flooring

- Absolutely fire-proof
- Light weight. Super-strong
- Self-cleaning
- Permitting free circulation of air and water, and passage of light.

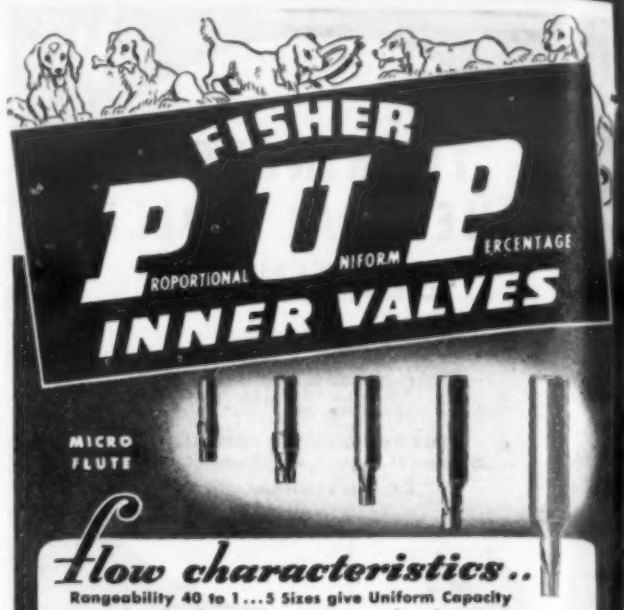

Klemp Welded — Klemp Riveted

KLEMP Gratings are prefabricated. Cut to your exact specifications, complete, ready to install. Satisfaction insured by 40 years steel flooring leadership. Three shifts a day required to meet today's demand.

Send for New Free Book, "Open Steel Grating and Stair Treads". Valuable up-to-minute cost-saving information. Many installations pictured. *Also*—if you have a maintenance problem with concrete or asphalt flooring, ask for Catalogs on Klemp Hextool Heavy Duty Surface Armor, and Floorsteel—The Flexible Floor Armor that Rolls Out Like a Rug. Write

WM. F. KLEMP COMPANY
"Steel Flooring Specialists"
6607 S. MELVINA AVE., CHICAGO 38, ILL.

▲ Mention Item NED-2439 when writing ▲



flow characteristics..

Rangeability 40 to 1...5 Sizes give Uniform Capacity
Spacing from ¼" to 1" inner valve size

Flow characteristic curves from actual test data on production models illustrate equal percentage characteristics and plot as straight parallel lines on semi-log paper.

Manufactured by high precision production methods. Material—stainless steel or stellite. Orifice sizes available 1/4", 3/8", 1/2", 3/4", and 1". Applicable to control valve size 1/4" to 2".

Bulletin A-100 gives full details.

FISHER GOVERNOR COMPANY, 1445 Fisher Bldg., Marshalltown, Iowa

▲ Mention Item NED-2440 when writing ▲

IT'S NOT THE HIP-HURRAH BUT THE COUNTS! THAT

Hundreds of users of Jones Tachometers tell us: "Production up 30%", "Maintenance expense at lowest levels in history", "Employe morale definitely better", "Quality of product unbelievably better", "Profits greater since Jones Motrola control instruments installed", and many other improved production results.

If you can find any interesting point covered in these quotations; if you do not have at present, or have never considered the use of, continuously functioning production and maintenance control instruments or if your presently installed instruments are not doing the good job expected of them, you should see the new 16 Page Catalog on Jones Tachometers. Write for it *now*.

JONES MOTROLA CORP.
439 FAIRFIELD AVENUE STAMFORD, CONN.

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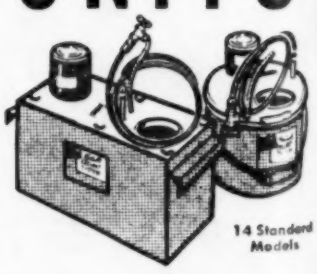
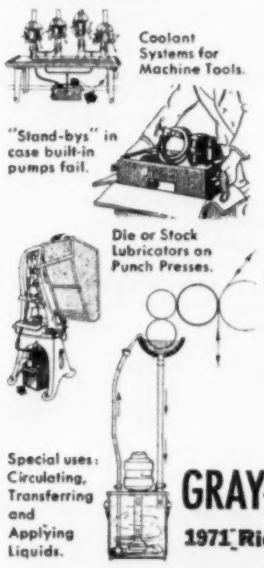
GRAY-MILLS

PUMP UNITS

Use these portable self-contained units as . . .


14 Standard Models



In a matter of minutes you can connect a Gray-Mills Portable Pump Unit to any machine and assure a continuous, controlled flow of coolant or other liquid. Units are complete with containers, motor driven pumps with filters, hose, control valves and flexible metal nozzles.

GEAR AND CENTRIFUGAL PUMPS
Volumes to 43 GPM—Pressures to 50 PSI—5-12-38 gallon containers.

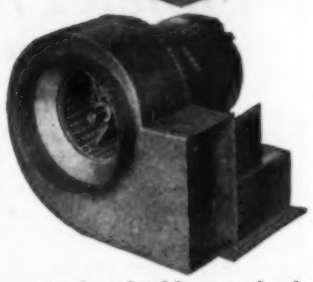
Send for catalog to

GRAY-MILLS CORPORATION
1971 Ridge Avenue Evanston, Illinois

▲ Mention Item NED-2442 when writing ▲

GIVE 'EM AIR- WITH Peerless UTILITY BLOWERS

• Factories • Warehouses
• Restaurants • Cafes
• Stores • Garages
• Schools • Theaters



Where gases, fumes, and foul air must be removed through ducts, Peerless Utility Blowers keep air circulating at low operating cost.

Heavy sheet metal construction . . . single inlet blower wheel . . . four different discharge positions . . . correct design and accurate construction, make Peerless a favored blower wherever vent work is demanded. Write for complete information.

THE Peerless ELECTRIC CO.
WARREN, OHIO

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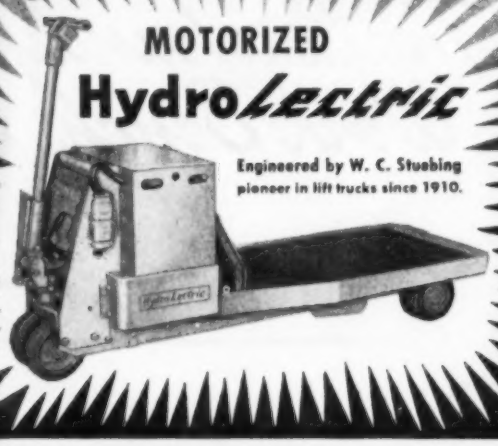
INDUSTRY IS "GOING PLACES" WITH THE MOTORIZED HydroLectric



Engineered by W. C. Stuebing pioneer in lift trucks since 1910.

Regardless of the product you make, be it mouse-trap or paper goods, glassware or castings, HydroLectrics can give your production a lift. In manufacturing or distribution . .. where dependability and economy count . . . HydroLectrics pay off! For fleet users, these rugged trucks have paid for themselves several times over in one year. Write for folder G.

LIFT TRUCKS, INC.
2425 SPRING GROVE AVENUE
CINCINNATI 14, OHIO

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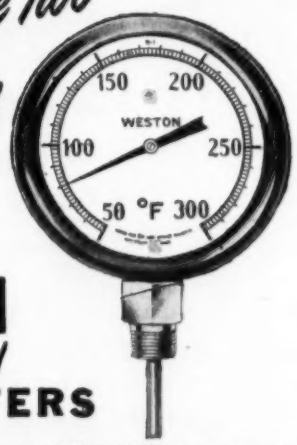
Combines the two

RELIABILITY readability



WESTON all-metal THERMOMETERS

The legible, wide open scale on the WESTON thermometer permits you to take full advantage of its inherent, long-time accuracy. Even from a distance, readings can be made "right on the nose." WESTON thermometers are available in a variety of types, stem lengths and scale ranges for most industrial applications. If your jobber cannot supply you, see your local WESTON representative, or write for Thermometer Bulletin . Weston Electrical Instrument Corporation, 663 Frelinghuysen Avenue, Newark 5, New Jersey.

MAX-MIN models also available to indicate highest or lowest temperature reached.

WESTON Instruments

▲ Mention Item NED-2445 when writing ▲

NEW Literature AND Catalogs

ALUMINUM LADDERS—12-page illustrated booklet "The Story of Aluminum Ladders" relates history of company specializing in aluminum fire, marine, industrial, warehouse, dairy and aviation ladders—shows examples of various types —issued by Aluminum Ladder Co., 141 Carbis St., Worthington, Pa.

▲ Mention Item NED-2446 when writing ▲

PLASTIC GUARD—12-page illustrated booklet "Plexiglas on Guard" discusses need of protection for machine operators, states advantages of Plexiglas transparent plastic and shows many applications of safeguard on various types of machinery —issued by Rohm & Haas Co., 222 W. Washington Sq., Philadelphia 5, Pa.

▲ Mention Item NED-2447 when writing ▲

BAGS & WRAPPING MATERIALS—16-page illustrated booklet describes and shows paper, burlap, cotton, waterproof and open mesh bags; crinkled liners; Redi-Rapt spiral tubing; baled burlap; Duratex crinkled duplex paper and twines—discusses history and facilities of company—issued by Chase Bag Co., 309 W. Jackson Blvd., Chicago 6, Ill.

▲ Mention Item NED-2448 when writing ▲

HORIZONTAL BORING MACHINES—6-page illustrated folder No. B-2000 presents information on specialized heavy duty boring machines—boring bar, pedestal, bed dimensions etc., for most frequently used models are listed— issued by Barrett Machine Tool Co., Meadville, Pa.

▲ Mention Item NED-2449 when writing ▲

MAGNETIC PULLEYS—12-page illustrated catalog No. 146 describes design and construction of Memco High Power magnetic pulleys available in both air cooled and solid types —table of standard sizes gives dimensions, weights, capacities, and other data—issued by Magnetic Engineering & Mfg. Co., 700 Van Houten Ave., Clifton, N. J.

▲ Mention Item NED-2450 when writing ▲

FLOW RATE INSTRUMENTS—12-page illustrated catalog section No. 27-A presents comprehensive and accurate dimensional information on every available combination of series 700 Flowrator instrument for indicating or recording rate of flow—issued by Fischer & Porter Co., Dept. 1D-A, Hatboro, Pa.

▲ Mention Item NED-2451 when writing ▲

SYNTHETIC RESIN COATING—12-page illustrated booklet "Nukemite Acid and Alkali Proof Resin Coating" describes and discusses applications of finish which is solution of inert synthetic resins which upon drying forms attractive tough and impenetrable film of exceptional elasticity—can be applied to concrete, wood and metal surfaces by brushing or spraying—issued by Nukem Products Corp., 111 Colgate Ave., Buffalo 20, N. Y.

▲ Mention Item NED-2452 when writing ▲

New A-C LOAD VISUALIZER

A COMPACT, PORTABLE SET FOR MEASURING A-C POWER

Here's a new indicating device created by General Electric to meet industry's need for a small, lightweight, low-cost analyzer. Employing an advanced principle of instrument design, it permits all readings to be made on a single scale. Easy to operate and having a wide range of usefulness, this versatile instrument requires only a few simple, convenient connections.

FIVE INSTRUMENTS IN ONE

Besides serving as a standard 0-2.5/5-amp ammeter and a 0-150/300/600-v voltmeter—or with conventional instrument transformers to extend the range—this instrument can be used, with the aid of the calculator provided, to determine quickly and easily watts, vars, and power factor for load surveys, induction motor tests, reactive-power studies, and power-factor improvement programs.

This handy instrument comes complete with an instruction card, calculator, and two 6-foot, flexible voltage leads, all enclosed in a sturdy carrying case. Total weight only five pounds. Write today for Bulletin GEA-4784. *Apparatus Dept., General Electric Co., Schenectady 5, N.Y.*

PRICE $97.50

GENERAL ELECTRIC

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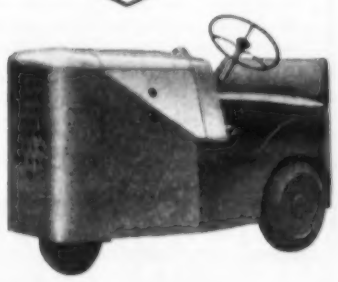
SHOP MULES

Variety of models and attachments (power winches, arc welders, load carrying platform, snowplows, mower bars, etc.) provide a tractor for nearly every pushing and pulling task.
Write for details of the SHOP MULE which will serve you best.

MODEL A3V-U2

INTERNATIONAL HARVESTER POWERED
SHOP MULE INDUSTRIAL TRACTORS



W. F. HEBARD & CO.
338 WEST 37th STREET
CHICAGO 9, ILLINOIS

CREATORS AND MANUFACTURERS OF SHOP MULES SINCE 1918

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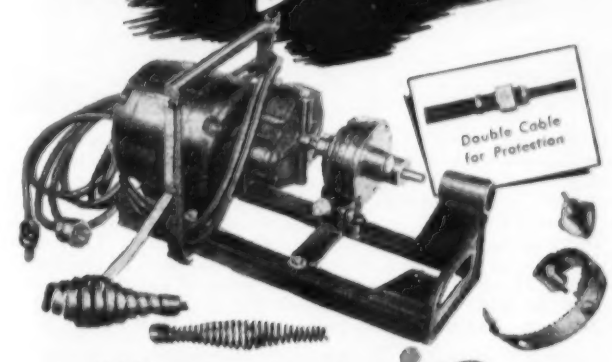
Clogged Sewers and Drains Cleaned Quickly... Safely and Easily...



with electric eel!

Electric Eel guarantees complete safety to operator because of stationary, protective outer sheath.

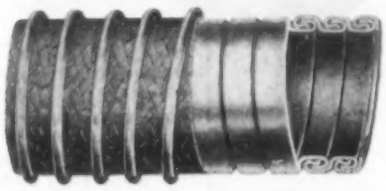
- Rotating Inner Cables
- Lines 1 ¼" to 8"
- Runs up to 200 ft.
- 8 years in production
- Over 4,000 in use
- Each tool engineered for particular purpose
- So low in cost that it will pay for itself on the first half dozen usages

OHIO TOOL & ENGINEERING COMPANY, BOX ND-47 SPRINGFIELD, OHIO

OHIO TOOL & ENGINEERING CO., BOX ND-47 SPRINGFIELD, OHIO
Please send without obligation details and prices on items checked below.
☐ ELECTRIC EEL ☐ ELECTRIC EEL JR.
NAME
ADDRESS
CITY ZONE STATE

▲ Mention Item NED-2455 when writing ▲

Another MULCONROY *Special Construction* All-Metal Hose



"FULLPAK"

Flexible All-Metal Hose; Full-Interlocked; Asbestos Packed; Laced and Wire Wound. Style 830. Meets highest requirements for strength, durability and safety for steam, air, water, oil, chemicals, etc. Flexible metal tube has cover (lacing) of tightly braided steel or bronze wire. Outer half-round steel or bronze spiral gives additional strength and protection. Also available with braided cover only, and plain. Sizes ¼" to 3"

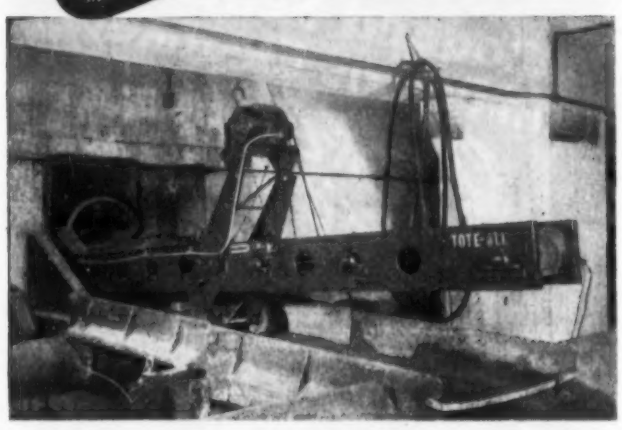
Other Mulconroy All-Metal Constructions include Diesel Engine Exhaust Hose; Exhaust Hose and Heater Tubing; High Pressure Grease and Hydraulic Hose.

"Mulconroy STARTS Where Others STOP."

MULCONROY COMPANY
5331 JEFFERSON ST., PHILA. 31, PA.

▲ Mention Item NED-2456 when writing ▲

To-Te-All the light conveyor that can take it! **. . . eliminates biggest headache in boiler room**



Wheeling ashes from a pit through a 3-ft. x 3-ft. opening and over a 10-ft. walk to a bucket elevator was a tough back-breaking job until a Tote-All conveyor was put on the job. Now, this toughest boiler-room job has become the easiest.

Tote-All portable power conveyors save time, money and effort on hundreds of jobs throughout industry. They're available in 14-ft. and 20-ft. lengths. Gasoline or electric power. Tote-Alls handle bulk material up to 14" top size or may be had without sideboards for handling packaged material. Get full details today. Write for Bulletin NED.

A Product of MATERIAL MOVEMENT INDUSTRIES
310 S. Michigan Ave. Chicago 4, Ill.

material movement industries
. . . for lowest cost material handling

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ELIMINATE JOINT LEAKS ON OIL AND HIGH-PRESSURE STEAM LINES with KEY GRAPHITE PASTE

Key Graphite Paste is the ideal sealer for all lines carrying oil (hot or cold), gasoline, kerosene and other petroleum products, and for high-pressure steam connections. It expands under heat to provide a perfect seal, yet will not freeze the connection. Thread and gasket connections, when sealed with Key Graphite Paste will not leak again, yet the connections may be easily opened. It is listed by the Underwriters' Laboratories.

SEND FOR FREE SAMPLE
Test Key Graphite Paste for its leak-proof qualities — write for liberal Free Sample.

KEY Company
2601 McCasland Ave., East St. Louis, Illinois

▲ Mention Item NED-2458 when writing ▲

New Literature—Continued

SOLDERLESS WIRING DEVICES—28-page illustrated plastic-bound data book "Presenting A-M-P" shows various types of solderless terminals, their features and applications in series of informative charts which are index-tabbed for quick reference—terminal selector chart and samples of terminals are included—issued by Aircraft-Marine Products Inc., 1552 N. Fourth St., Harrisburg, Pa.

▲ Mention Item NED-2459 when writing ▲

LUMBER DESIGNS—1947 edition of typical lumber designs, with quantities and materials lists for light and heavy frame structures, is available to architects, engineers and builders—employing Teco connector system of construction, designs are offered as guides in designing for specific jobs—issued by Timber Engineering Co., 1319 Eighteenth St., N. W., Washington 6, D. C.

▲ Mention Item NED-2460 when writing ▲

WATER TEMPERATURE CONTROL—16-page illustrated condensed catalog No. 3035 covers line of regulators and thermostatic water mixing valves made for water temperature control—issued by Powers Regulator Co., 2740 Greenview Ave., Chicago 14, Ill.

▲ Mention Item NED-2461 when writing ▲

HYDRAULIC POWER UNITS—8-page illustrated bulletin No. 46-43 describes features and contains technical data on single stage, two-stage and two-pressure vane type pumps of Motor-pump or separate motor type—blueprint drawings show construction—issued by Vickers, Inc., 1456 Oakman Blvd., Detroit 32, Mich.

▲ Mention Item NED-2462 when writing ▲

CASTERS—44-page illustrated catalog No. 65-3 presents general information and technical data on line of Rapid-Flame-Hardened steel forged casters—Durastan resinoid, molded-on-rubber, and micro-steel series of caster wheels are shown—diagrams and drawings of methods of mounting casters for utmost efficiency are included—issued by Rapids-Standard Co., Dept. C-148, 308 Peoples National Bank Bldg., Grand Rapids 2, Mich.

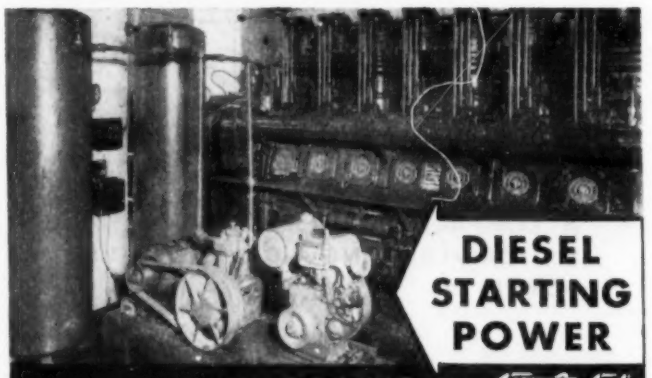
▲ Mention Item NED-2463 when writing ▲

MOTION & TIME STUDY—232-page illustrated book "Systematic Motion and Time Study" by Marvin E. Mundel, explains possibilities of motion and time study, analysis of work methods, operation charts, micromotion study, stop-watch time study, application of motion and time study standards, synthetic times and similar factors—price is $4—published by Prentice-Hall, Inc., 70 Fifth Ave., New York 11, N. Y.

▲ Mention Item NED-2464 when writing ▲

ARC WELDING—32-page illustrated booklet "Learning to Weld" is intended to teach arc welding and to assist in applying process to repair of broken parts, hard surfacing of worn parts and building of miscellaneous equipment—subjects treated include protective clothing and equipment, striking arc welding positions, types of welds, fit-up of parts, procedures for various welds, welding cast iron and hard surfacing—price is 25 cents—issued by Lincoln Electric Co., Dept. AP-574, Cleveland 1, O.

▲ Mention Item NED-2465 when writing ▲



DIESEL STARTING POWER

Supplied by **WISCONSIN** *Air-Cooled* ENGINES

On this Chicago Pneumatic Diesel installation at the Armstrong Paint and Varnish Works, Chicago, Illinois, dependable emergency standby starting power is supplied by a single cylinder Wisconsin Heavy-Duty Air-Cooled Engine.

Wherever there is a power job to be done, within a 2 to 30 hp. range, you can depend on Wisconsin Engines for a quick start under any climatic condition and complete freedom from cooling chores and troubles.

Wisconsin Engines are available in a complete range of sizes to fit a great diversity of power applications. Write for detailed information.

WISCONSIN MOTOR Corporation
MILWAUKEE 14, WISCONSIN
WORLD'S LARGEST BUILDERS OF HEAVY-DUTY AIR-COOLED ENGINES

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Punch Press Feeder

SAVES TIME • PREVENTS INJURIES

For lifting, feeding and positioning sheets in stamping machines and die-presses, without inserting the hands or fingers within the danger zone.

For rapidly transferring metal blanks from piles or stacks, especially when oily and greasy and difficult to grasp with the fingers.

Many other uses on all non-porous materials, flat or curved surface.

Write for Bulletin NE-47

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

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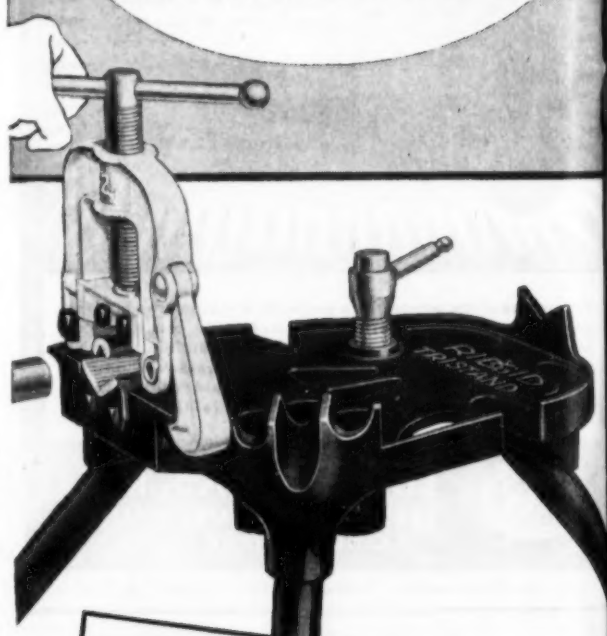
A PIPE VISE *That's a handy Work Bench*



RIDGID TRISTAND is portable and roomy —a big worksaver

RIDGID *Vises include bench, post, stand models yoke and chain*

● You can carry the Tristand easily to and around the job—legs fold in—and you've got a convenient work-bench. Big tray for dope pot, oil can, slots for tools, pipe rest for easier cutting and threading, 3 handy benders that won't dent pipe. Yoke or chain vise with LonGrip jaws, safe for nickeled pipe. A worksaver bargain—buy at your Supply House.

RIDGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL COMPANY • ELYRIA, OHIO

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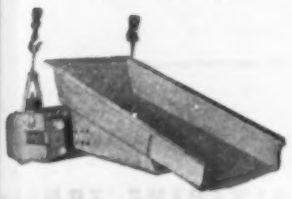
SYNTRON

"Vibra-Flow"

VIBRATORY FEEDERS



with Rheostat Control of Material Flow

Speed Up Material Handling

Provide a smooth, effortless flow of bulk material—dry or damp, hot or cold—to belt conveyors, crushers, driers, ball mills, packaging machines, etc.

Available in a range of sizes—from a little 1 ton per hour model up to a big 500 ton per hour model.

Write for Folder 9-46

SYNTRON CO.
405 Lexington, Homer City, Pa.

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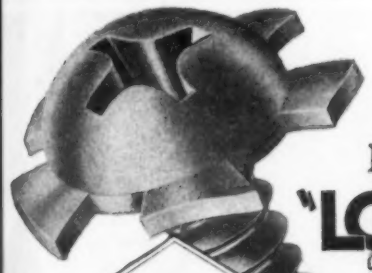


HOLTITE "LOCK-TITE" U.S. Pat. No. 2,226,491 SCREWS

The Lock Washer is part of the screw

All the advantages of separate lock washer and screw assemblies combined in a single cost-cutting unit! As washer is an integral part of the head, it eliminates lost time and waste.

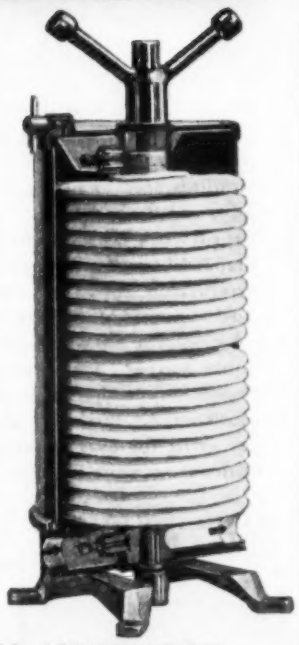
Made to meet specific needs of user, the design of teeth, type of metal, hardening and tempering can be regulated to obtain most efficient locking or binding action required for the application. Furnished with HOLTITE-Phillips Recessed Heads or slotted heads in round, flat, hex and binding shapes. Write for folder.

CONTINENTAL SCREW CO. New Bedford, Mass., U.S.A.

▲ Mention Item NED-2470 when writing ▲

"Disc-Pak" FILTER FOR OILS

Removes particles down to the Millionth of an Inch



The Alsop New "*Disc-Pak*" Filtration Principle completely removes dirt, rust, moisture, sludge, metallic particles and all other impurities from Turbine, Fuel, Diesel, Transformer, Hydraulic Oils, Water, etc.

The Filter discs are made in eight different densities, making available practically any degree of fineness of filtration you may desire. Our finer discs will remove particles down to the millionth part of an inch. Write for your copy of Bulletin No. 144 today.

ALSOP ENGINEERING CORPORATION
Filters, Filter Sheets, Pumps, Tanks, Mixers, Agitators
204 East Road Milldale, Connecticut

▲ Mention Item NED-2471 when writing ▲

New Literature—Continued

INDUSTRIAL RESTAURANT SERVICE—40-page illustrated booklet "Employee Feeding Earns a Profit" is analytical study of advantages of industrial employee feeding—explains function of organization specializing in providing individualized feeding services adapted to specific needs of each installation—issued by Crotty Brothers, Inc., 137 Newbury St., Boston 16, Mass.

▲ Mention Item NED-2472 when writing ▲

MOTOR PUMP UNIT—12-page illustrated bulletin No. 46-5000 presents information on Submersible deepwell turbine pump and electric motor unit which operates entirely submerged in water at any depth—it is suitable for applications requiring capacities of from 7000 to 20,000 gallons per minute and heads up to 1500 feet—issued by Byron Jackson Co., P. O. Box 2017 Terminal Annex, Los Angeles 54, Calif.

▲ Mention Item NED-2473 when writing ▲

PRESSURE REDUCING VALVES—4-page illustrated bulletin No. 199 presents information on small volume pressure reducing and regulating valve designed for installations where space is limited—special designs available are discussed—issued by A. W. Cash Valve Mfg. Corp., 666 E. Wabash Ave., Decatur, Ill.

▲ Mention Item NED-2474 when writing ▲

WIRE INSULATION SATURANTS—16-page booklet "'Zyrox' Brand Saturants for Wire Insulation" presents technical data on saturants available for treating fibrous materials used in insulating electrical wire and cable—low viscosity at operating temperature permits maximum penetration of cotton and asbestos insulations to provide moisture and flame retardance—issued by Bakelite Corp., Dept. E, 30 E. 42nd St., New York 17, N. Y.

▲ Mention Item NED-2475 when writing ▲

GLYCERIDE OIL REFINING—12-page illustrated booklet "Prescription for Glycerides" explains Solexol process which, without any glyceride oil loss, decolorizes, deodorizes, selectively removes free fatty acids and divides remainder of oil into highly useful fractions according to structure and molecular weight—issued by M. W. Kellogg Co., 225 Broadway, New York 7, N. Y.

▲ Mention Item NED-2476 when writing ▲

NYLON—6-page illustrated circular "Nylon Molded and Machined" by Louis L. Stott describes physical properties and potential industrial uses for molded or machined nylon such as bearings, gears, valve seats and electrical parts—properties of molded nylon are tabulated—issued by Polymer Corp., Ganster Bldg., Reading, Pa.

▲ Mention Item NED-2477 when writing ▲

ATMOSPHERE GENERATORS—12-page illustrated catalog "Bellevue Atmosphere Generators" describes both endothermic and exothermic types of furnace atmosphere generators and their application to wide range of operations in heat treating field—operations include bright or clean annealing, brazing and soldering, bright hardening and tempering, sintering and coloring of Pyrex glass—issued by Bellevue Industrial Furnace Co., 2971 Bellevue Ave., Detroit 7, Mich.

▲ Mention Item NED-2478 when writing ▲

Costs Go Low... as materials flow on the Crescent Electric PALLETIER

What It Can Do For You . . .

- Save labor—one man replaces a crew
- Speed production
- Step up loading and unloading of freight cars
- Stack loads high — utilize more storage space
- Turn in narrow radius
- Increase worker safety

This is the truck to take loads off your mind

Send For Free Bulletins illustrating and listing specifications for 1000, 2000, 3000 and 4000 pound Crescent Electric PALLETIERS.

CRESCENT TRUCK COMPANY
1050 WILLOW ST., LEBANON, PA.

ELECTRIC Crescent PALLETIER

▲ Mention Item NED-2479 when writing ▲

SAFER TO WORK WITH...

Thor AIR HOSE COUPLINGS

Thor Air Hose Couplings snap into a positive lock that cannot break, jar or whip apart. They connect and disconnect *in full safety* with speed and ease. All sizes are interchangeable up to ¾". Ask your Thor Distributor for full information or write for catalog.

INDEPENDENT PNEUMATIC TOOL CO.
600 W. Jackson Blvd., Chicago 6, Illinois
BRANCHES IN PRINCIPAL CITIES

Thor PORTABLE POWER TOOLS

PNEUMATIC TOOLS • UNIVERSAL AND HIGH FREQUENCY ELECTRIC TOOLS • MINING AND CONTRACTORS TOOLS

▲ Mention Item NED-2480 when writing ▲

DIETZGEN DIRECTO

Black on White PRINTS

PHOTO-ACCURATE COPIES FOR FACTORY

OFFICE

SHOP

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SPRAY BOOTHS—8-page illustrated folder "Schmieg Centri-Merge Spray Booths" discusses principles and shows operation of these water wall type booths—blueprint drawings show installations designed for specific requirements—metal parts washing machine, spray booth drying oven installation and automatic finishing machine are depicted also—issued by Schmieg Industries, Inc., 331 Piquette Ave., Detroit 2, Mich.

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MAGNETIC CRANE CONTROLS—20-page illustrated booklet No. B-3853 contains descriptive information, wiring diagrams, performance curves and application guide to aid in selecting type of alternating current magnetic crane control best suited to any application—discusses reactor system which is particularly applicable where accurate spotting of load is important—issued by Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

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POWDER METAL PARTS & BEARINGS—44-page illustrated revised catalog "Powder Metallurgy" on powder metal parts and bearings includes new sizes of self-lubricating porous bronze bearings—they include plain, flanged and self-aligning spherical types—correct design of powder metal parts is explained—issued by Keystone Carbon Co., 2035 State St., St. Marys, Pa.

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DUAL DRIVE LATHE—16-page illustrated manual "LeBlond Dual Drive" shows elements of construction of lathe by means of transparent plastic pages which permit reader to disassemble and assemble machine—five colors are used to display dual driving mechanisms, feed drive, cut sections and oil lines—descriptive text matter is keyed to illustrations—price is $1—published by R. K. LeBlond Machine Tool Co., Edwards Rd., Cincinnati 8, O.

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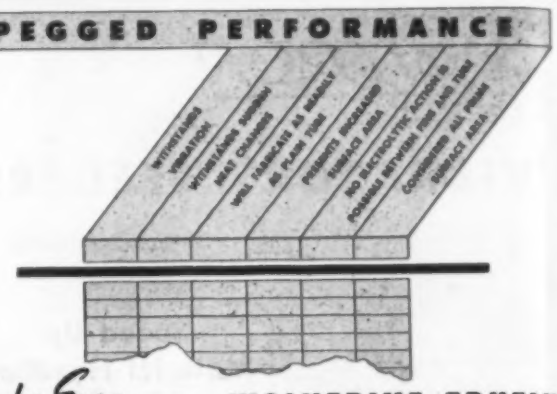

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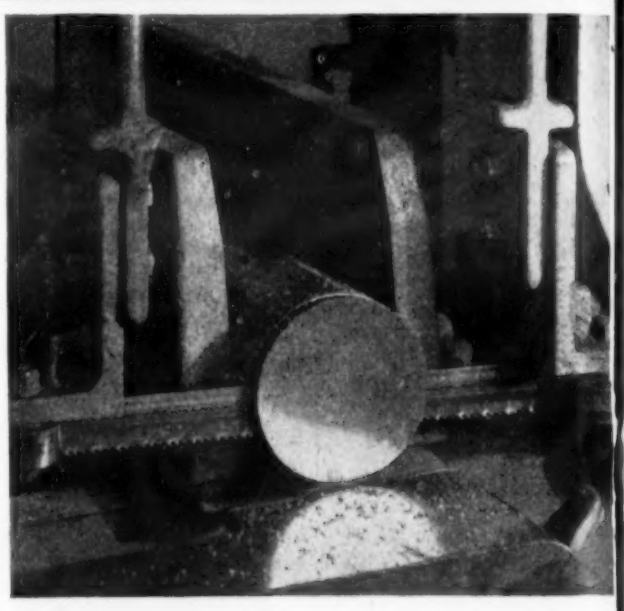

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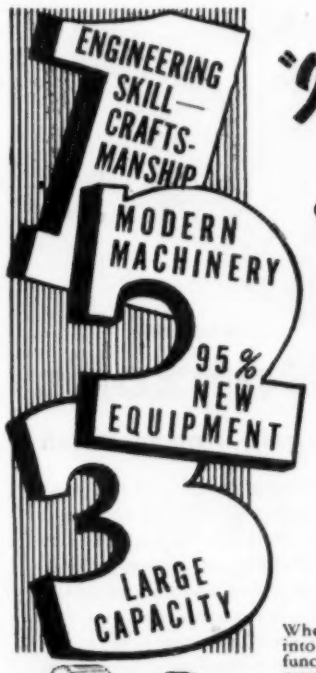

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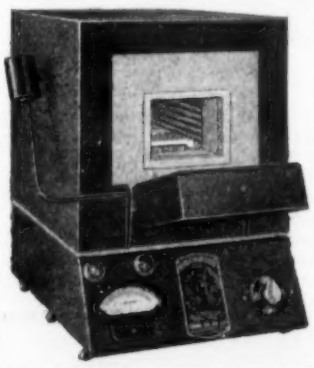

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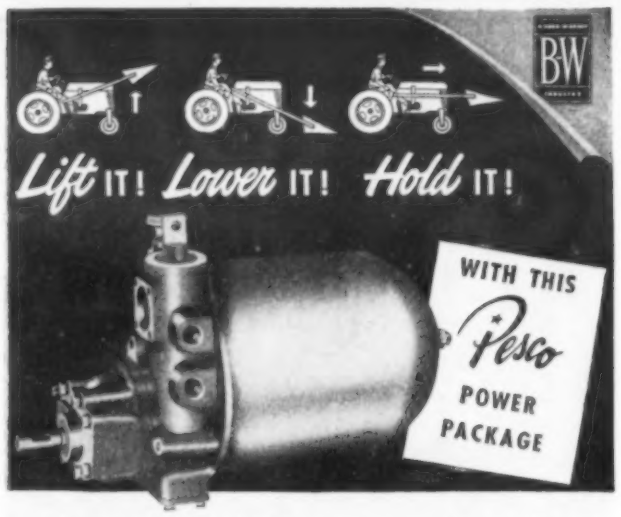

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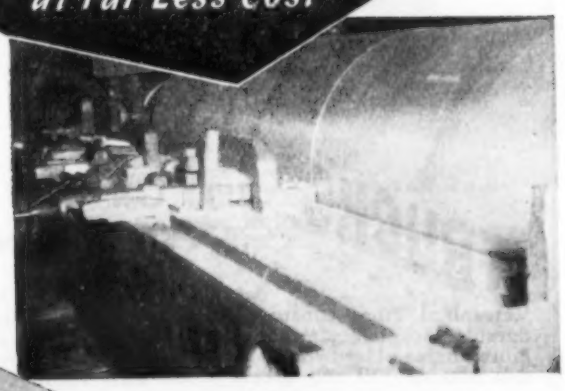

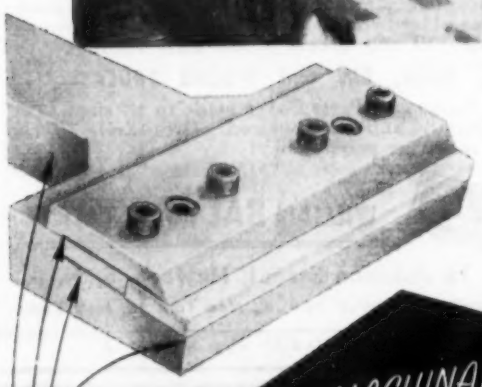

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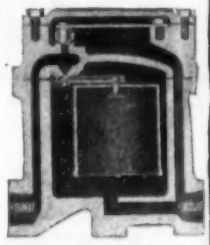

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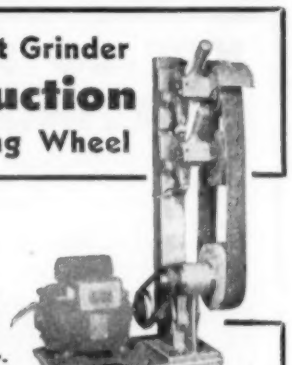
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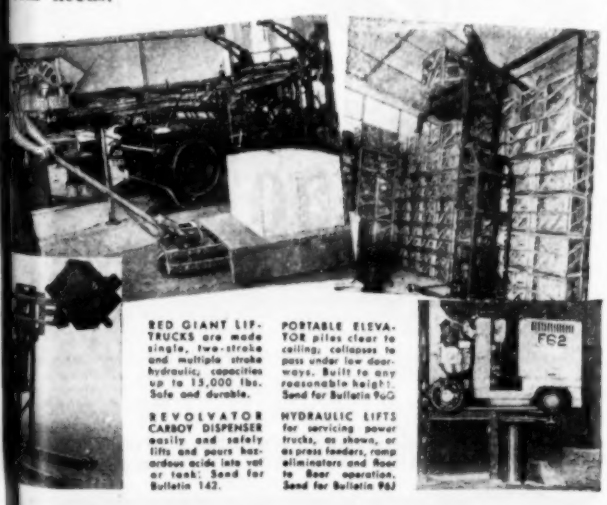

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80 tooth Action!
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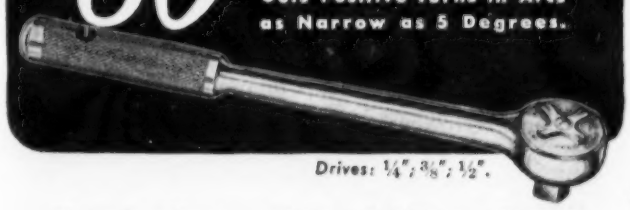

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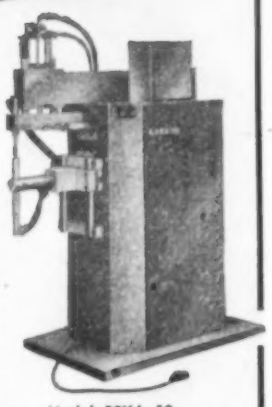
with **LARKIN**

Instant Control



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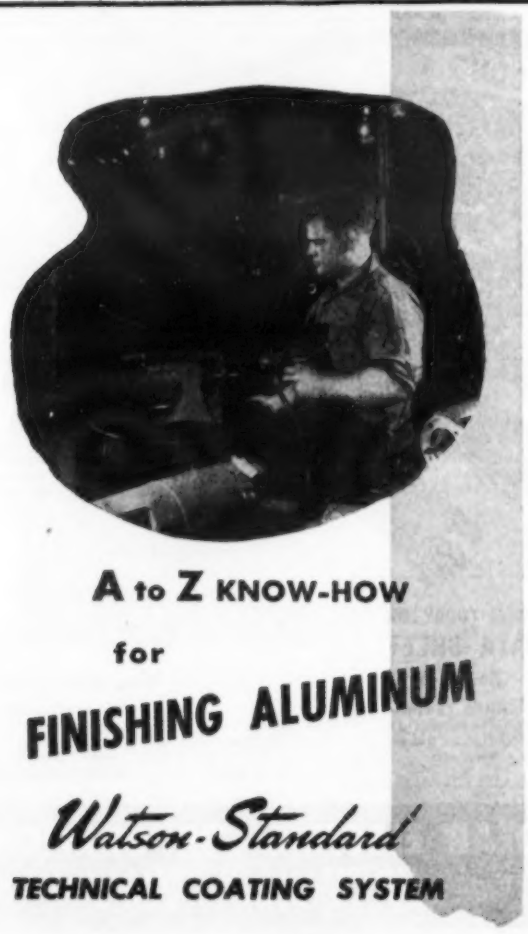

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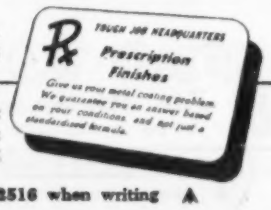

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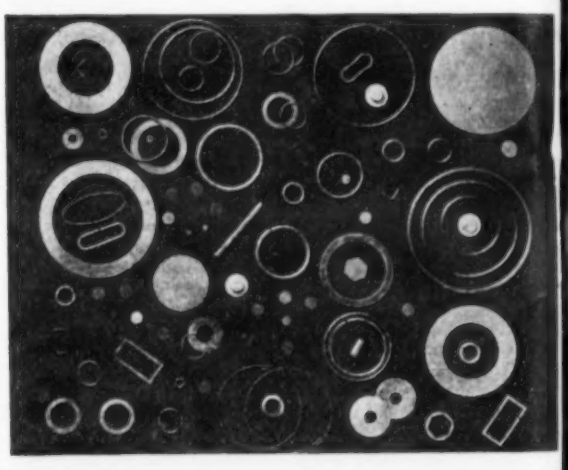
made from Easy-Flo, Sil-Fos, Copper, Phos Copper, Bronze and Aluminum. Orders filled promptly in any quantities. Rings, disks, flat washers, stampings. Standard and special shapes and sizes for your particular requirements. Tell us to send facts and figures that lead to lower costs, speedier production and better joints.



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WITH TORNADO VACUUM CLEANERS

CLEAN motors—clean machinery — clean floors — everything "breathes" more freely when dust, dirt and lint are removed daily with the power and portability of the TORNADO Industrial Vacuum Cleaner.

Noiseless model shown. Other regular models available. All combine TORNADO speed, large capacity, efficient, low cost operation. A model for every requirement

Request details on FREE TRIAL Offer

BREUER ELECTRIC MFG. CO. 5106 N. Ravenswood Ave. CHICAGO 40, ILL.

TAKE THE DUST OUT OF INDUSTRY *with* BREUER'S PORTABLE ELECTRIC TORNADO INDUSTRIAL VACUUM CLEANERS

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IMPROVE OPERATIONS with the JEFFREY BIN-EYE

AT A GLANCE the level of the material in the bin is shown.

The more common applications of this Bin Level Control:

1. To control signal lights or alarms indicating the level of material.
2. To control signal lights and at the same time either start or stop bin feeding and discharge equipment.
3. May be used without signal lights or alarms to start or stop bin feeding.
4. Bin-Eye may be lowered directly into bin . . . moved up or down to give various control levels.

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JEFFREY

ESTABLISHED 1877

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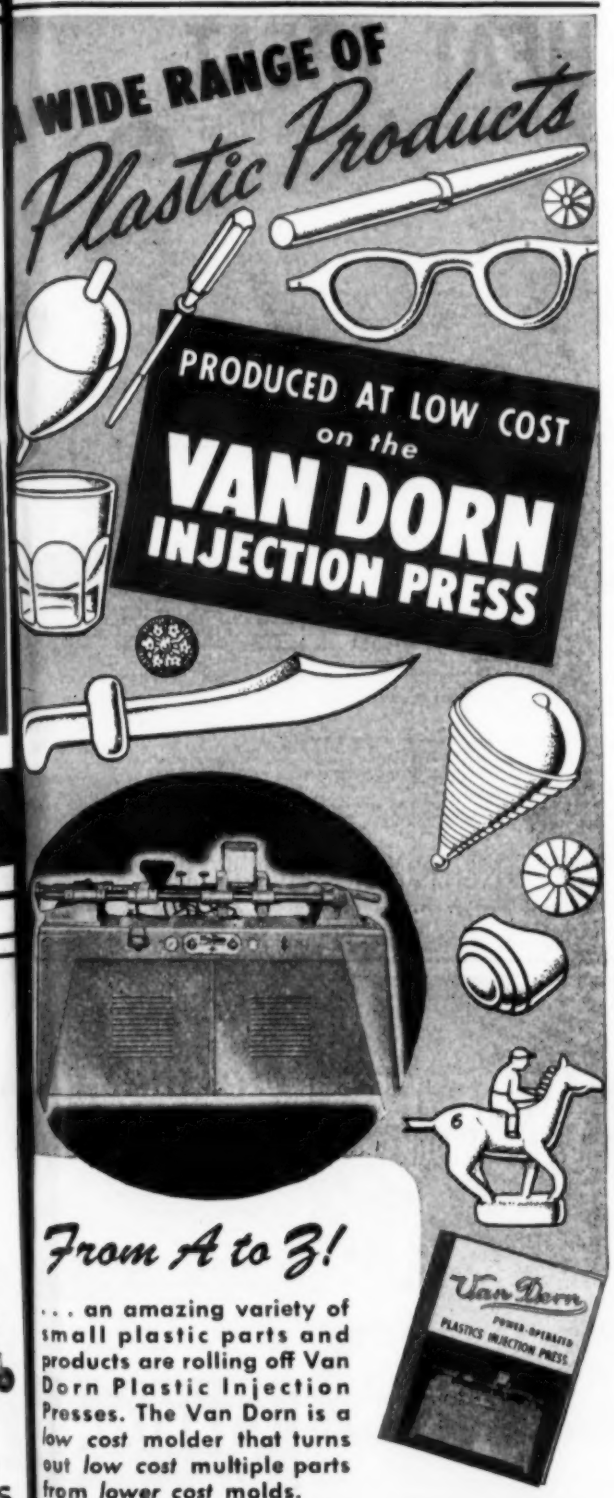

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This versatile one ounce press is built for simple, fast set-up and operation . . . and assures quantity production of quality products. Investigate its application for your requirements.

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THE VAN DORN IRON WORKS CO.

1695 EAST 79th STREET • CLEVELAND 4, OHIO

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Manufacturers of a Complete Line of Building Maintenance Materials

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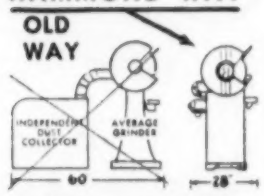
SAVE OVER 50% FLOOR SPACE THE HAMMOND WAY



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- Protects employees' health.
- Protects nearby machine tools against excessive wear from dust and grit.

A self-contained Grinder and Dust Collector for 10", 12" and 14" wheels. Write for Bulletin No. 104.

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Is An Important Feature of
DRACCO PNEUMATIC CONVEYORS

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Banish sheet cutting difficulties! This amazing new hand tool does everything and more than shears or nibblers do. No starting holes . . . just start cutting at any desired point (even in the middle of a sheet). Cuts contours or straight line cleanly and speedily, leaving milled edge requiring no filing, straightening or deburring. Safety-guarded blade can be adjusted for any depth up to ¼". Inexpensive, long-life, fast-cutting blades are easily replaced when necessary. Ask your distributor for a demonstration or write for Bulletin E.

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High-strength Machinable Welds In Cast Iron . . .

EASIER . . FASTER . . CHEAPER

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FREE

SEND TODAY

THERMOSTATS & PRESSURE SWITCHES

United Electric Controls Company
71 A STREET, BOSTON 27, MASSACHUSETTS

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New Literature—Continued

INDUSTRIAL TRAINING FILMS—Catalog contains information on sound motion pictures on 16-millimeter film and filmstrips for 35-millimeter slidefilm projectors produced by United States government to aid in teaching great variety of skills—issued by Castle Films Div., United World Films, Inc., 30 Rockefeller Plaza, New York 20, N. Y.

▲ Mention Item NED-2530 when writing ▲

ARC WELDING INSTRUCTION—24-page illustrated booklet "Learn Arc Welding" explains functions of school and describes courses of study offered in various phases of arc welding—issued by Hobart Trade School, Inc., Troy, O.

▲ Mention Item NED-2531 when writing ▲

ELECTRIC LIFT TRUCK—8-page illustrated bulletin on Power JackLift electric lift truck describes features of unit which incorporates electric drive, lift and brake—truck can be operated with handle in any position and can be maneuvered with utmost efficiency in congested areas and limited floor space—issued by Lewis-Shepard Products, Inc., 302 Walnut St., Watertown 72, Mass.

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ELECTROSTATIC SPRAYING & DETEARING—12-page illustrated booklet "Electrostatic Spraying and Electrostatic Detearing" by Dr. Emery P. Miller discusses principles of electrostatic spraying and detearing, types of paints and products suited to these processes and advantages of using methods in production painting—issued by Harper J. Ransburg Co., 1234 Barth Ave., Indianapolis 7, Ind.

▲ Mention Item NED-2533 when writing ▲

AIR OPERATED TOOLS—24-page illustrated bulletin form No. 5600 describes air operated tools especially suited for use by contractors—included are impact wrench, sump pumps, tampers, hammers, vibrators, drills, grinders, hoists and accessories—line of portable compressors is shown—issued by Ingersoll-Rand Co., 11 Broadway, New York 4, N. Y.

▲ Mention Item NED-2534 when writing ▲

ELECTRONIC APPARATUS—Bi-monthly publication entitled "Currently from Sorensen at Stamford" will feature developments in voltage regulation and special electronic apparatus—issued by Sorensen & Co., 375 Fairfield Ave., Stamford, Conn.

▲ Mention Item NED-2535 when writing ▲

SMALL BALL BEARINGS—4-page illustrated bulletin "Ball Bearings for Precision Instruments and Mechanisms" describes and presents actual size illustrations of radial, super-light radial, pivot, angular contact and thrust series ball bearings—complete specifications are given including load ratings recommended for average typical requirements—issued by Miniature Precision Bearings, Inc., 13 Kingsbury St., Keene, N. H.

▲ Mention Item NED-2536 when writing ▲

MARKING EQUIPMENT—150-page illustrated catalog shows and describes complete line of marking tools and machinery—contains information relative to ordinary marking operations and to special marking problems—available upon letterhead request—issued by Geo. T. Schmidt, Inc., 4106 Ravenswood Ave., Chicago 13, Ill.

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Workers keep the Willson Protecto-Shield* on, because it combines safety with real comfort and smart appearance. Ideal for light duty jobs. Examples: spot welding, light grinding, wood working.

Lightweight visor swings up easily when not in use. Held firmly in place by exclusive "Slot-Lock." Both visor and sweatband easily replaceable. Shield is roomy enough to wear over glasses.

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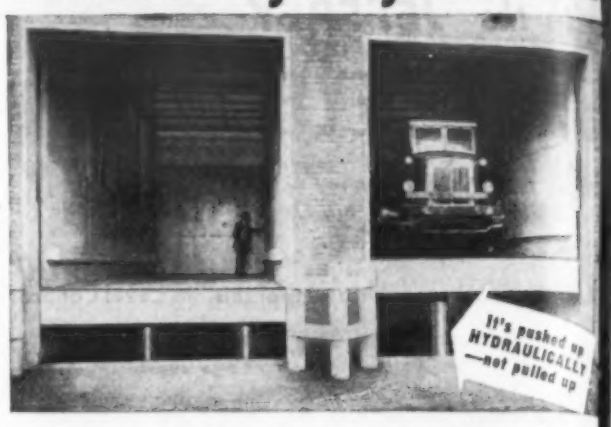

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Rotary OILDRAULIC ELEVATORS

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- Install anywhere by simple wire connection. Quiet in operation. No fumes or odors—no ventilating required.
- Any intelligent man can operate furnace with automatic temperature control, using established procedures.
- Operating cost under 4¢ per hour to hold 1600° F. in Model 3 furnaces, with 2¢ per kw.-hr. rate. Others in proportion.

NOW YOU CAN heat treat, harden and temper small parts in your own plant . . . *without experienced heat treaters.* Economical to install and use, Cooley Electric Furnaces operate efficiently at high or low heats, and save your large furnace time for work requiring large volume capacity.

HERE ARE SOME profitable uses:
. . . Production heat treating of small parts . . . Small batches . . . Running pilot lots to predetermine mass production techniques . . . Emergency repairs . . . Industrial and laboratory testing . . . Miscellaneous controlled heating jobs.

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FROM COLD	1850° F. in 55-65 min.				1850° F. in 55-65 min.				2000° F. in [illegible]
AMPERES	14.8 at 230 v.				19.6 at 230 v.				20.2 at 230 v.
WATTS	3400				4500				4650
MODEL*	MH-3	VH-3	MK-3	VK-3	MH-4	VH-4	MK-4	VK-4	VK-3
PRICE	146.00	166.00	186.00	206.00	222.50	242.50	262.50	282.50	320.00

* M models complete with hinged door and hearth plate.
V models have counterweighted vertical lift door with adjustable opening.
K models include Selective Power Modifier for input control to correct temperature lag.

ACCESSORY EQUIPMENT
Electronic operated Veri-Tron indicating and controlling pyrometer, with thermocouple and lead wire $143.00
Bamo in self-contained, enclosed panel including line switch and fuse, fumes and steel stand $40.00
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State your problem. Write now.

COOLEY ELECTRIC MANUFACTURING CORP.
58 South Shelby Street Indianapolis 7, Indiana

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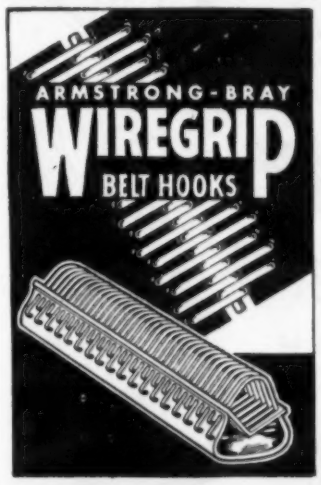

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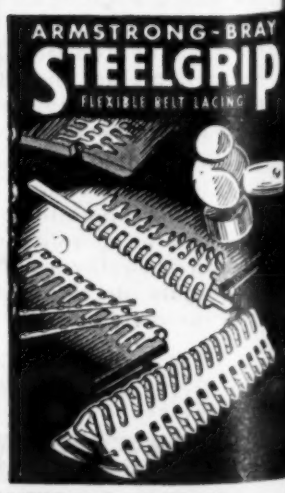
With its new modern plant and multiplied capacity ARMSTRONG-BRAY & CO. can give prompt delivery on both standard types of belt lacing. WIREGRIP Belt Hooks with the patented ARMSTRONG-BRAY blue aligning cards hold every hook in perfect alignment, preventing hook loss from handling or waste of short card ends. (6 sizes)



• STEELGRIP Steel Lacing comes in 11 sizes, in convenient boxes or long lengths for wide belts. Especially recommended for rubber and fabric belts for it compresses belt ends and prevents fraying. Applied with a hammer, STEELGRIP penetrates belt easily, clinches securely and smoothly. 2-piece hinged rocker pins increase flexibility and reduce wear. (11 sizes).

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"The Belt Lacing People"
5362 Northwest Highway
Chicago 30, U. S. A.

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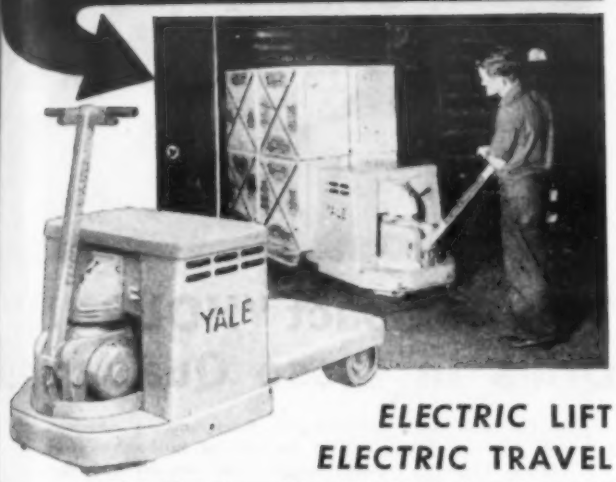

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ELECTRIC TRAVEL

● With the Worksaver Electric Lift Truck, "muscle moving" is out! Material handling becomes little more than a steering and strolling operation. Anyone in your plant can lift and "walk off" with loads up to 6,000 lbs.—spot them accurately beside machines or in storage, on trucks or in freight cars—by merely operating easy, finger-pressure controls. Two safe forward and reverse speeds; dual safety brake; hydraulic load release.

There's a Worksaver designed to fit *your* needs. High Lift Platform, Low Lift Platform, Fork, Pallet and Tractor Types. Write for catalog.

THE YALE & TOWNE MANUFACTURING CO.
4530 Tacony Street • Philadelphia 24, Pa.

YALE

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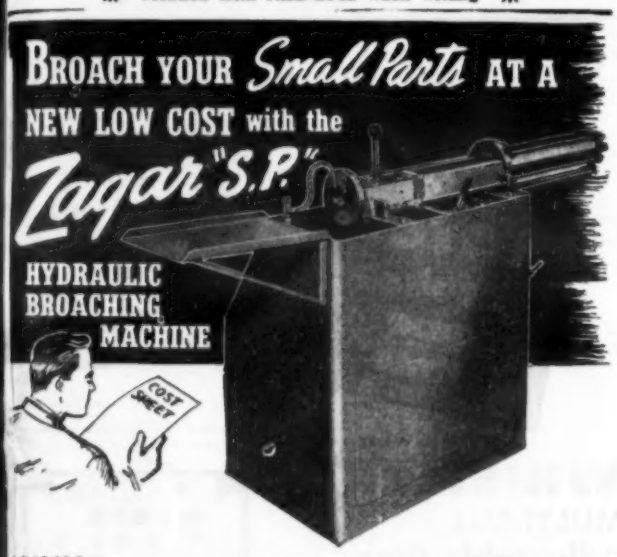
BROACH YOUR *Small Parts* AT A NEW LOW COST with the *Zagar* "S.P."



WHY take chances with obsolete methods. Maintain accuracy and finish . . . and produce all around better work on a compact, powerful and inexpensive Zagar Broaching Machine. Maximum capacity 12,000 lbs., variable speeds 30' per minute maximum with 20" stroke. Weighs hardened and ground with adjustable gibs. *Low Initial Cost* and *Minimum Maintenance* make the Zagar Broaching Machine a *Profitable Investment* for any plant regardless of size.

WRITE TODAY FOR CATALOG No. 3-4

Zagar
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23880 Lakeland Blvd. • Cleveland 17, Ohio

PRODUCTION TOOLING FOR INDUSTRY

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ALL-NEOPRENE *Latex* GLOVES
For Every Industrial Use

★ Impermeable to practically all acids and caustics
★ Highly resistant to oils and greases

4 POPULAR STYLES

★ **No. 5760-5,** 18" LONG
EXTRA LONG GAUNTLET
GAUGE .030 TO .040
SIZES 10, 11

★ **No. 5737-2,** 14" LONG
LONG GAUNTLET
GAUGE .030 TO .040
SIZES 9-10-11-11½-12

★ **No. 5705-5,** 11" LONG
SHORT GAUNTLET
GAUGE .020 TO .025
SIZES 9-10-11

★ **No. 5702-5,** 10½" LONG
LIGHT DUTY
GAUGE .010 TO .012
SIZES 7-8-9-10-11

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New Literature—Continued

AUTOMATIC TEMPERATURE CONTROLS—20-page illustrated bulletin No. 5 contains charts, tables and diagrams that explain temperature measurement and automatic control, and selection of proper control systems for process applications—thermocouples and thermocouple protecting tubes are treated—ASME terminology referring to processes and automatic control is listed also—issued by Wheelco Instruments Co., 829 W. Harrison St., Chicago 7, Ill.

▲ Mention Item NED-2545 when writing ▲

FLEXIBLE COUPLINGS—32-page illustrated bulletin No. 4100 shows and describes details of type F Steelflex couplings which can be used for all general industrial applications—complete simplified selection tables are provided for both motor and turbine applications—eight other types of couplings to meet special requirements are described also—issued by Falk Corp., 300-A W. Canal St., Milwaukee 8, Wis.

▲ Mention Item NED-2546 when writing ▲

MIXING EQUIPMENT—Illustrated folder "Better Mixing Makes Products Better" presents information on Kutmixer which cuts and mixes in one operation; Twin Screw mixer which rubs, kneads and agitates without splashing; and Triplex jacketed temperature controlled mixers and vacuum operated mixers—issued by Mixers, Inc., Wensley & Allen Sts., Philadelphia 34, Pa.

▲ Mention Item NED-2547 when writing ▲

GAS WELDING & CUTTING—24-page illustrated catalog No. AD 3729 contains information on Gasweld welding and cutting torches, single stage regulator, welding and cutting outfits and variety of special purpose torches, tools and accessories—issued by Wall Chemicals Div., Liquid Carbonic Corp., 1454 W. Randolph St., Chicago 7, Ill.

▲ Mention Item NED-2548 when writing ▲

ENGINE SAFETY EQUIPMENT—30-page illustrated catalog No. 646 shows and describes safety controls, alarm systems, special indicator systems and automatic plant equipment for stationary, locomotive and marine internal combustion engines and for general industrial applications—revised price list is included—issued by Viking Instruments, Inc., East Haddam, Conn.

▲ Mention Item NED-2549 when writing ▲

FLEXIBLE SHAFTING—20-page illustrated bulletin "Walker-Turner Flexible Shafting" presents design and engineering data on flexible shafting—covers applications in aircraft instruments, radio, appliances, industrial machinery and special uses—includes formulas and tables to aid in proper selection—issued by Walker-Turner Co., 2709 Berckman St., Plainfield, N. J.

▲ Mention Item NED-2550 when writing ▲

FILTERS—46-page illustrated booklet "Filters" discusses filtration of air and oil for internal combustion engines and compressors, purification of compressed air for engineering purposes, reducing wear in generating station machinery, protecting electrical equipment from dust erosion, air conditioning, purification in chemical and food industries and similar purposes—issued by Drico Industrial Corp., 29 Broadway, New York 6, N. Y.

▲ Mention Item NED-2551 when writing ▲

REDUCES BREAKAGE
SAVES 30% IN TIME

Freight car to piles in 30% LESS TIME . . . that's what the recently installed RAPID-ROLLER GRAVITY CONVEYOR has already done for one user . . . in the movement of flue tile, metal sash and other building supplies. This simple gravity straight section set-up has done away with double handling, prevented excessive breakage and made workers' jobs easier. It is PAYING FOR ITSELF!

Write for detailed information TODAY!

Manufacturers of
STEEL FORGED CASTERS • TRUCKS & CONVEYORS • POWER BOOSTERS

The Rapids-Standard Co., Inc.

Sales Div.—378 Peoples Nat'l Bk. Bldg., Grand Rapids 2, Mich.

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SAFE AID IN HANDLING ACIDS

• Easy to operate for air pressure causes a steady, smooth flow of acid. No spurts or splashing.
• Safe for it is impossible to create a dangerous air pressure. Flow of acid stops instantly by pressing release valve.
• Economical—longer life assured as no acid contacts pump parts—reasonable replacement parts—proper tube materials available for different acids.
• Convenient—operates at floor level—no lifting of carboys. Pump pipe serves as gauge—easily transferred to new container.

Price $12.80 Complete • Immediate Delivery

GENERAL products include: Goggles, Respirators, Face Shields, Gloves, Aprons, Welding Helmets, First Aid Cabinets & Supplies.

Send for Bulletins.

GENERAL SCIENTIFIC EQUIPMENT CO.
2702 W. Huntingdon Sts., Philadelphia 32, Pa.
"COAST TO COAST SAFETY SERVICE"

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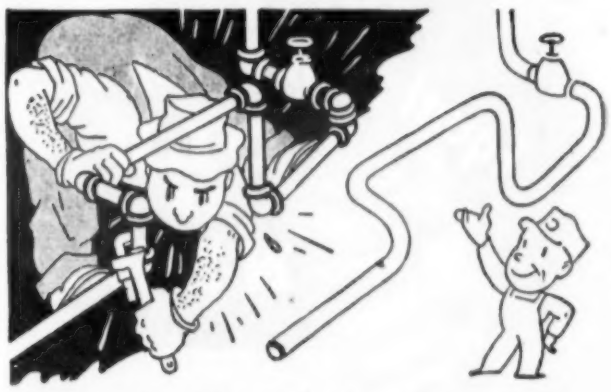
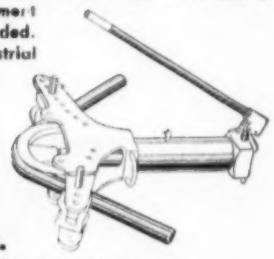


Don't Mend It—Bend It
It is Much Faster, Easier, Cheaper, Neater, with
Tal's Prestal Pipe Bender

You can make those hard piping jobs easy—bend wrought iron, steel pipe and conduit from ¾" to 3" in one single, simple operation. Does a perfect workman-like job . . . no kinks, no wrinkles, no heating, no filling. Takes only a few minutes time . . . and a simple, compact motor driven attachment is available if even more speed is needed. Already thousands of leading industrial plants are using this fastest working, portable pipe bender.



HYDRAULIC PORTABLE TAL PRESTAL

TAL PRESTAL BENDER, INC.
Dept. NED-3
Milwaukee 2, Wis.

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FISH POND in your BASEMENT?

USE STONTITE!
Send for FREE folder . . . no obligation

STONHARD COMPANY, 808 Term. Com. Bldg., Phila. 8, Pa.
Send us a free copy of the folder including details about STONHARD STONTITE.
Firm.....
Mr.....Title.....
Address.....
City.....Zone.....State.....

STONHARD COMPANY
Building Maintenance Materials • Since 1922
808 Terminal Commerce Bldg. Phila. 8, Pa.

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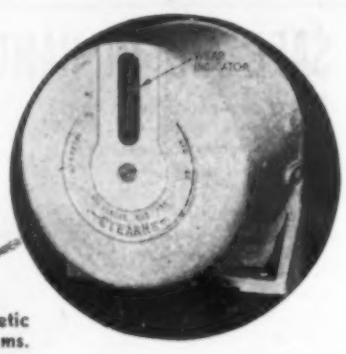
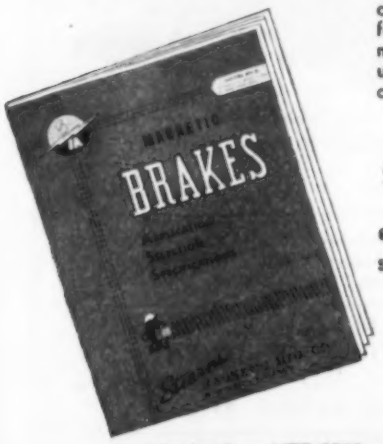
FOR BETTER BRAKE Performance



Consult Stearns Magnetic on your braking problems. Brakes in sizes up to torques of 500 lbs. or the equivalent of 100 hp. at approximately 1000 rpm. in floor or motor mounting types for AC or DC current. For effective retarding of motors or machinery, whether for one or a sequence of controlled stops, whether for horizontal or vertical mounting. Being satisfactorily used in hundreds of exacting operations.



Ask for our Brake Bulletin.

STEARNS MAGNETIC MFG. CO.
653 S. 28th St., Milwaukee 4, Wis.
SEPARATORS • CLUTCHES • MAGNETS

Typical Motor Application

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Equal to any task - OLD OR NEW

For nearly 50 years Timken Tapered Roller Bearings have kept pace with mechanical developments in one industry after another, meeting every new challenge with the same efficiency and sureness. Yesterday they helped to make American fighting equipment the best in the world. Today they are doing the same for the new products of peace. Make sure you have them in your equipment and look for the trade-mark "TIMKEN" on every bearing. The Timken Roller Bearing Company, Canton 6, Ohio.

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

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HANDEE • TOOL OF 1001 USES
Reg. U.S. Pat. Off.

JACK OF ALL TRADES AND MASTER OF PLENTY

It's quick, it's deft, it's conveniently small, yet the Handee Tool packs a terrific wallop! Handee is the original, single hand controlled, electrically driven tool—and it's the finest today. It can be used at the bench or carried right to the job. It reaches hard-to-get-at places on machinery, touches up perishable tools, grinds dies, chip breakers on broaches, removes burrs, etc. Runs at a cool 25,000 r.p.m. AC or DC. Wt. 12 oz.

Combined with its accessories and exclusive attachments, the Handee Tool performs more operations with greater accuracy than any other portable electric tool at any price.

HANDEE KIT

Strong, compact steel carrying case holds the Handee Tool and a complete assortment of accessories. Postpaid, $27.50. Handee with 7 accessories only, $20.50.

CHICAGO ACCESSORIES fit any power tool. The most complete line available. Over 500—all finest quality. The right one for every job!

Write for 64-page catalog

CHICAGO WHEEL & MFG. CO., 1101 West Monroe St., Dept. NE, Chicago 7, Ill.

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New Literature—Continued

pH & CHLORINE CONTROL—88-page illustrated handbook entitled "Modern pH & Chlorine Control" describes Liquitrol method and equipment for control of pH, chlorine and phosphates and their application to water treatment, air conditioning, food processing, chemical refrigeration, textile and other industries—issued by W. A. Taylor & Co., 7300 York Rd., Baltimore 4, Md.

▲ Mention Item NED-2559 when writing ▲

LINEMEN'S EQUIPMENT—20-page illustrated catalog is descriptive of safety belts and straps; climber straps and pads; tool holsters; bags for nuts, bolts and gloves; and safety shoes—also briefly described are linemen's pliers, hammers, rules, scissors, skinning knives, screwdrivers, gloves and similar equipment—issued by R. J. Miller Equipment Co., Franklin, Pa.

▲ Mention Item NED-2560 when writing ▲

MILLING & MILLING MACHINES—326-page illustrated handbook is second section of "A Treatise on Milling and Milling Machines" and covers milling process, chip formation, surface finish and cutting fluids, power required in milling and mounting of milling cutters—price is $1—published by Cincinnati Milling Machine Co., Marberg & South Sts., Cincinnati 9, O.

▲ Mention Item NED-2561 when writing ▲

AIR FILTERS—24-page illustrated booklet entitled "American Air Filters in Industry" discusses various types of industrial dust problems and typical applications of air filters for air conditioning, ventilation, drying operations, product finishing, control of bacteria and mold spores, cooling electrical equipment, engines and compressors—issued by American Air Filter Co., 262 Central Ave., Louisville 8, Ky.

▲ Mention Item NED-2562 when writing ▲

BRONZE BUSHINGS & BEARINGS—80-page illustrated catalog No. 460 deals with general purpose bearings, oil grooving, universal cored bars, solid and hexagon bars, tin and lead base babbitts, graphite and electric motor and Ledaloyl self-oiling bearings—issued by Johnson Bronze Co., 580 S. Mill St., New Castle, Pa.

▲ Mention Item NED-2563 when writing ▲

TRUCK DECALCOMANIAS—20-page illustrated guide book "Ads on Wheels" describes how and where to use decals to utilize advertising space on trucks or for safety and service signs—numerous truck decals are shown in full color—explains standard for rating effectiveness of truck advertising—available upon letterhead request—issued by Meyercord Co., 5323 W. Lake St., Chicago 44, Ill.

▲ Mention Item NED-2564 when writing ▲

RADIO RECEIVING TUBES—378-page illustrated technical manual contains basic application data for 545 types of radio receiving tubes—includes characteristic curves for types in common use, resistance coupled amplifier data, interchangeable tube charts, connections for standard RMA internal and external shields, receiver and amplifier circuits, dictionary of terms and instruction on use of characteristic curves—price is 85 cents—published by Sylvania Electric Products Inc., Emporium, Pa.

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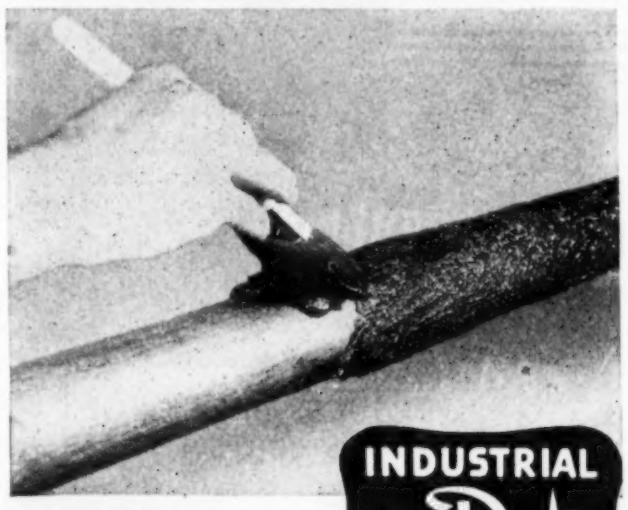

INDUSTRIAL NoDrip

COVER PIPES TANKS, WALLS, etc.

Anyone can brush, trowel or spray NoDrip on any clean, dry surface. Goes on like plaster, forms a seamless, protective coating.

STOP CONDENSATION DRIP

NoDrip keeps equipment and floors safe and dry; prevents corrosion of metal and prolongs its life. Acid, alkali and brine resistant. Comes in 1, 5 and 55 gal. drums, ready for use.

TRY NoDRIP

Apply NoDrip to a small area, compare the results with uncovered portions.

Send for free NoDrip Handbook

J. W. MORTELL CO.
526 BURCH STREET, KANKAKEE, ILL.

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This Compact "HOLGUN" Drills In Close Quarters!

A Van Dorn ¼" HOLGUN has short working clearance and minimum spindle offset for drilling in hard-to-get-at places. Powerful, compact, rugged, you can use it in continuous production or maintenance work. Drives many attachments. Light weight reduces operator fatigue, makes it ideal for production line jobs. Ask your nearby Van Dorn Distributor. Write for catalog to: The Van Dorn Electric Tool Co., 762 Joppa Road, Towson 4, Md.

For Power Specify "Van Dorn" *Trade Mark Reg. U.S. Pat. Off.
(DIV. OF BLACK & DECKER MFG. CO.)
PORTABLE ELECTRIC TOOLS

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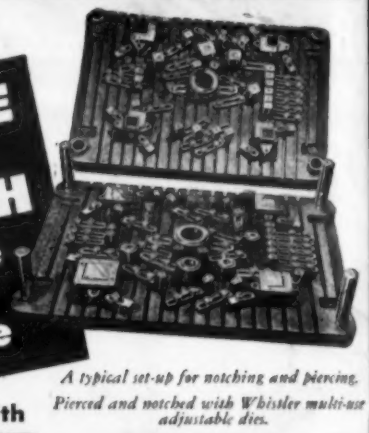
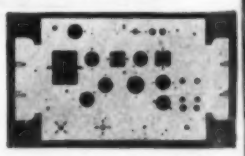
PIERCE and NOTCH at the same time



A typical set-up for notching and piercing.

with WHISTLER MULTI-USE Adjustable Dies



Pierced and notched with Whistler multi-use adjustable dies.

Save press time and speed production by combining corner notching dies and group dies in the same set-up with adjustable piercing dies. Press operations reduced to a minimum. Engineering changes effecting relocation or sizes of holes made right on the press. Whistler multi-use Adjustable dies are available from stock in all standard sizes to 3" diameters... round, square, ovals and rectangles. Notching and group dies to order. In addition to mighty attractive savings in original die costs you save weeks of production delay. You actually make up die sets from units in stock and reduce costs per job to an unbelievably low figure. Get all the facts on how Whistler adjustable dies can speed *your* production... cut *your* costs. Write today for the Whistler Catalogs.

S. B. WHISTLER & SONS, Inc. 752-756 Military Rd. Buffalo 17, New York

WHISTLER MULTI-USE ADJUSTABLE PERFORATING DIES

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Heavy Duty Plastic Makes
SOLID FLOOR PATCH
INSTANTLY... No Wait for Setting!

FREE TRIAL OFFER

Tamp Smooth! Truck Over!

Now you can restore broken concrete to solid smoothness without having to close off the area. Use durable INSTANT-USE . . a tough, plastic material which you simply shovel into hole—tamp—and run traffic over immediately. NO WAITING. Bonds tight to old concrete. Makes smooth, solid, heavy-duty patch. Withstands extreme loads. Keep a drum on hand for emergencies. Immediate shipment.

Request Descriptive Folder and Details of

FREE TRIAL OFFER

INSTANT-USE

FLEXROCK COMPANY
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Canadian Office: 21 King St., E., Toronto, Ont.
Please send me complete INSTANT-USE information and details of TRIAL ORDER PLAN—no obligation.
Name .....
Company .....
Address .....

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